A recent photograph of the POWELL RIVER COMPANY'S modern news print mill at Powell River, British Columbia

PACIFIC PULP & PAPER INDUSTRY

October - 1936

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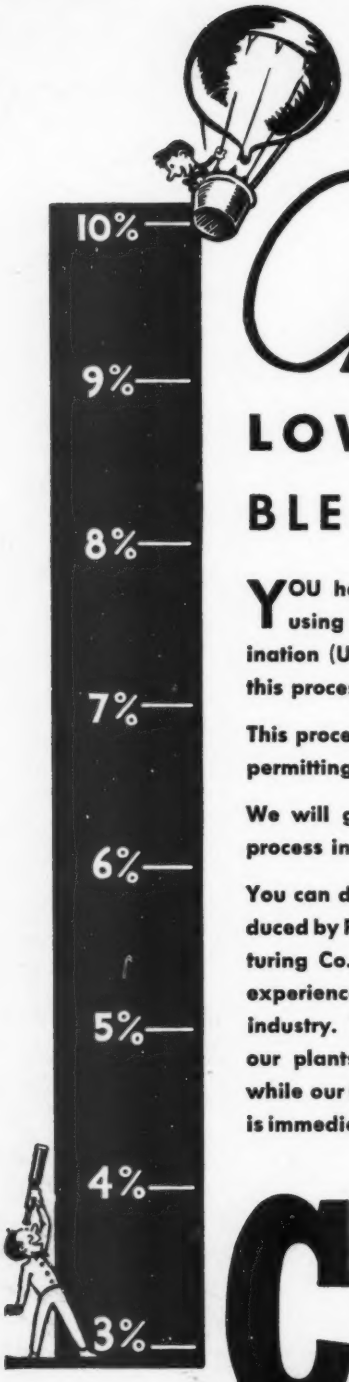

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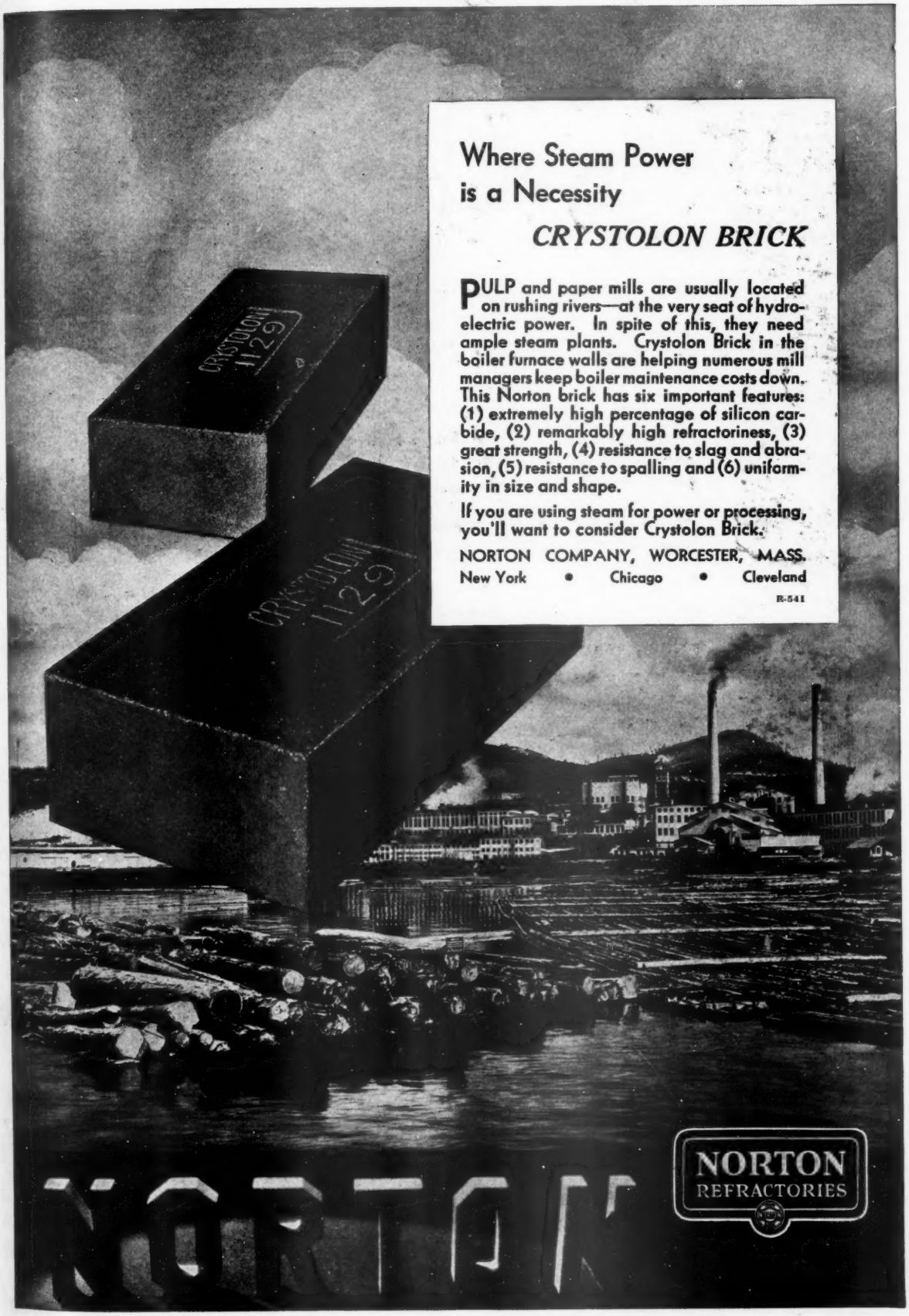
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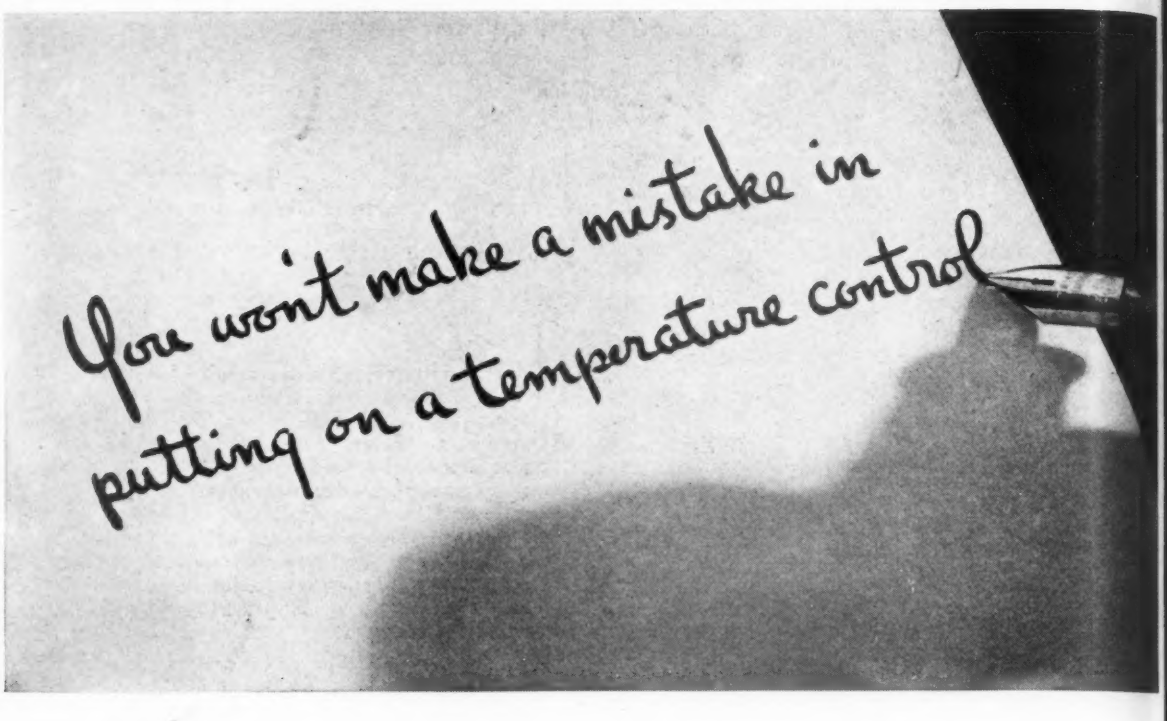

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THE LETTER CONTINUES:

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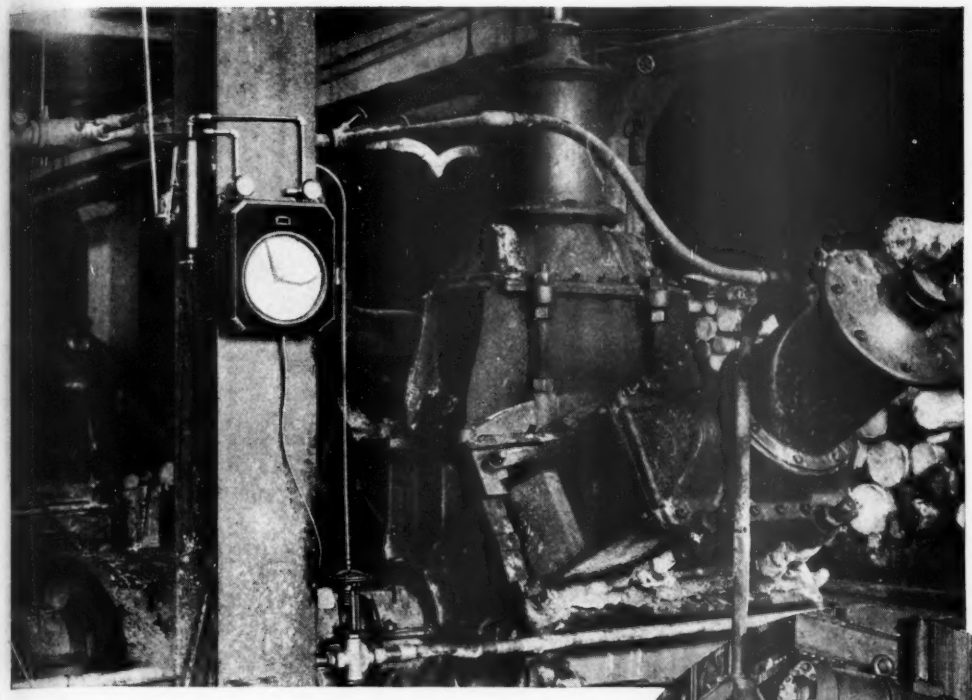

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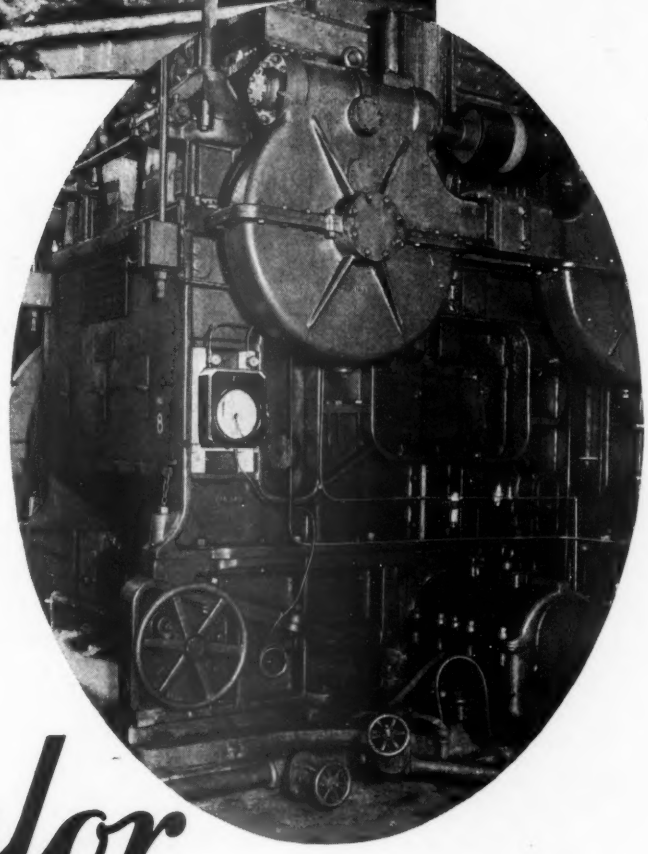
On pocket-type grinders Taylor Control produces uniform, high quality stock and reduces conversion costs from 2% to 5%.



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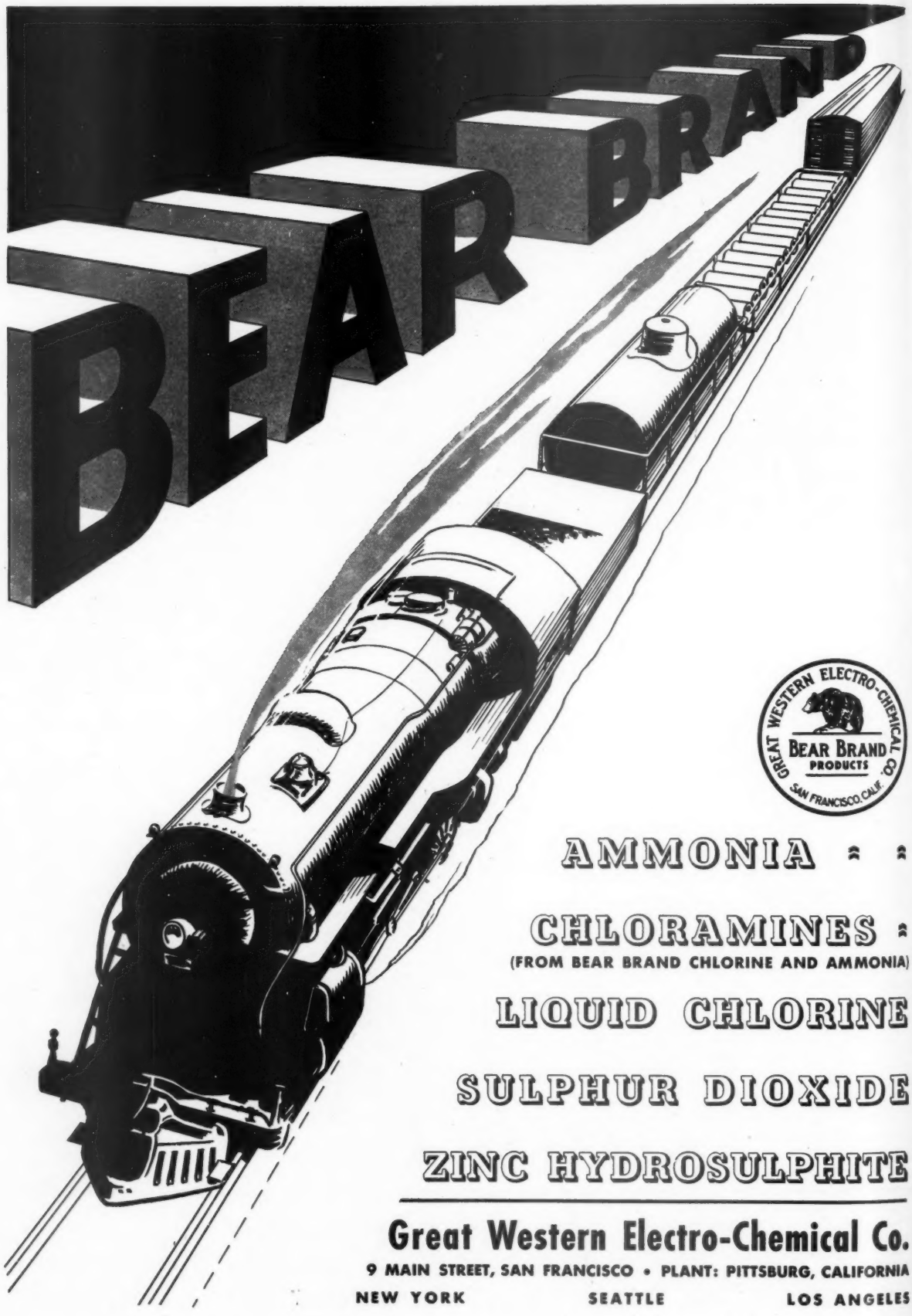

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PACIFIC PULP & PAPER INDUSTRY

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OCTOBER • 1936

RAYON MARKETS EXPAND

New Plants Under Way to Meet Demand—Estimated That Rayon Will Consume 1,000 Tons Per Day More Sulphite in 1937 Than in 1936

THE rayon industry continues its steady growth. Consumer demand, developed through the ingenuity of chemists and fabric designers in improving rayon, is forcing the expansion of production facilities. Broadening of the fabric applications of rayon insures the soundness of the continued development. The rayon industry envisages so many new uses for its products opinion is almost unanimous that rayon has a long way to go before reaching its maximum development.

Growth of the rayon industry means the consumption of an increasing tonnage of high grade bleached sulphite pulp, for so far in 1936 yarn made by the viscose process has accounted for 87 per cent of all rayon yarn sales. The viscose process employs wood pulp as its raw material up to about 90 per cent of requirements, the balance being cotton linters, which are used to obtain specific qualities in the finished products.

One of the largest producers of bleached sulphite pulp for rayon estimates that the rayon industry will require 1,000 tons per day more sulphite in 1937 than in 1936.

Rayon's increasing demand for bleached sulphite pulp means added pressure on the Pacific Coast industry to produce more pulp, for it is in this section of the United States where the sulphite industry has had its greatest development and where exist the greatest possibilities for further production.

Rayon Production Gains Again This Year

After a 25 per cent increase in rayon production in 1935 over 1934, leaders in the industry, early this year, predicted a gain in 1936 over 1935 of approximately 10 per cent. In the first six months of the present year the gain in United States production over the first six months of 1935 was 6.4 per cent. This was not entirely comparative with the first half of 1935 because of the severe spring floods which caused many textile mills to close down. Otherwise the rayon industry believes the percentage increase would have been greater.

In July of this year Mr. Francis A. Adams, editor of the Rayon Textile Monthly, published the following editorial concerning the rayon situation in this country:

"There is ample proof in the production figures for the first six months of 1936, that rayon continues to gain in favor in this country, as it does throughout the world. Those who have kept careful records over the years on production and consumption of rayon yarns have found that each six months' period scores a broadening in the demand. Based upon reports from rayon yarn manufacturers representing a preponderant percentage of capacity, it is shown that to the first of July, in the current year, production totaled 135,000,000 pounds. This compares with the production for the corresponding period in 1935 of 127,000,000 pounds. The floods last Spring temporarily checked production in several plants that are now back to capacity.

"A gain has been made in the face of a general textile market that has not been as active as that of a year ago, so far as silks and fine cotton fabrics are concerned. With rayon mixtures and all-rayon fabrics, 1936 has been another banner year and every indication points to a continuation in demand. The production of some plants is already sold ahead for periods of from one to two months. Such recognition of the value of rayon in the textile industry is taken as a firm assurance that the additional plant production which is scheduled to come in during the balance of this year will not overtax the market but will be needed to meet the month by month demand of the trade. An estimate of the demand for rayon by types shows that viscose yarn is selling to a total of some 87 per cent, with acetate and cuprammonium yarns representing the balance of demand."

Census Report on Rayon

Director William L. Austin of the Bureau of Census, Department of Commerce, in the first report of the Biennial Census of Manufactures for 1935, now under way, says that rayon yarn production in the United States for 1935 totalled 265,142,656 pounds, an increase of 24.2 per cent over the 1933 production (the last preceding census year). The 1933 production was in turn larger than that of any previous year.

The number of wage-earners in the rayon industry also increased in 1935, being 50,165 or 13.2 per cent above the 1933 employment.

The total value of rayon products made in 1935 was $181,154,983, an increase of 15.4 per cent above 1933 and 36.6 per cent over the value of the 1931 production.

The census defines the rayon industry as embracing establishments engaged wholly or principally in the manufacture of rayon yarn and of products of similar composition in the form of sheets, straw, horsehair, etc. It does not cover establishments engaged primarily in the manufacture of products from rayon as a material.

Textile Economics Bureau Report

In a summary of ten years progress in the rayon industry, Mr. Stanley B. Hunt of the Textile Economics Bureau, says in part:

"In the rayon producing industry, we have first of all the tremendous growth in rayon yarn production from 51 million pounds in 1925 to 257 million pounds in 1935 (the Census Bureau says 265 million). By processes, this decade has witnessed the introduction of commercial acetate and cuprammonium yarn production, and the discontinuance of the nitrocellulose. By 1935 the viscose and cuprammonium processes accounted for 78 per cent of the total production and the acetate process accounted for 22 per cent.

Phenomenal Reduction in Price

"Unfortunately, there is not a single measure by which the great changes in rayon quality can be measured over the past ten years. But certainly it is true that all the individual measures of rayon quality indicate that tremendous strides and improvements have taken place. When the substantial reduction in rayon prices from $2.05 per pound in 1925 to 57 cents per pound in 1935 is considered, it will be seen that, quality for quality, the price of rayon has declined phenomenally.

Production Increase Greatest in South

"Regarding the location of producing industry, there has been a tendency to increase capacity in the Southern States

more rapidly than in the Northern States over the past ten years. This change has been due not only to certain production advantages, but also to the proximity of the greater rayon consuming industry in the South.

"So far as rayon consumption according to trades is concerned, we find that the takings of rayon by the hosiery, underwear and outerwear industries already had reached a high plane by 1930 and this position has been well maintained in these industries since that time. These consuming industries were among the first to adopt rayon on wide scale and it is only natural that their rate of growth in recent years should have been slower than in the earlier years.

Weavers Largest Consumers Today

"It is in the weaving industry that we find the greatest growth of rayon consumption over the past decade. It is not necessary here to review the many types of woven fabrics into which rayon has gone. Suffice it to say, however, that rayon has created many new fabrics of its own in the weaving field and the growth of rayon consumption in this field continues unabated to date.

Rayon Staple Fiber a Newcomer

"The first rayon plant designed for the production of rayon staple fiber was installed in this country in 1927. Since that time extensive experimentation has been conducted in the manufacture and uses of this new rayon product, and the important advances made by this industry during the past two or three years promise a great future for it. Perhaps it is not anticipating too much to express the opinion that the domestic rayon staple fiber industry over the coming decade will show as phenomenal advances as its older brother, the filament rayon yarn industry, has shown over the past decade.

"The entire history of the rayon industry has been a rapid succession of improvements in production, fabrication, finishing and distributing technique. There is every reason to believe that the same ingenuity and work which has typified the industry in the past will carry it on to higher standards of accomplishment in the future, such as are not envisaged by most people today."

Writing in the September number of the Rayon Textile Monthly, Dr. E. K. W. Schwartz expresses his opinion that staple fiber should be renamed staple rayon to better identify it. He says that since it is an offspring of rayon, having been developed originally from rayon waste, it ought to have a name which better describes it.

Staple rayon as contrasted with filament rayon is rayon in short lengths. The lengths vary according to the result desired in the finished product, and if mixed with another fiber, according to the length of that fiber. Originally rayon was used only in filament form like silk. Its uses were limited because in filament form it could not be spun on cotton or woolen spinning machines.

But with the staple rayon short fiber rayon now can be spun on cotton or woolen spinning machines. This produces new effects in the finished cloths.

But what promises to be the largest field for staple rayon is in mixtures with cotton and wool, particularly the latter. Dr. Schwartz in his article has this to say about staple rayon mixtures:

"While staple rayon is not exactly a new thing, its practical application has been neglected over the phenomenal technological development of (long filament) rayon. During this almost hectic period staple rayon practically had been forgotten except as far as rayon waste was concerned. It came to life again principally by force of economic reasons of some European countries which had no foreign currency to finance the necessary purchases of wool and cotton, and which had to look for substitutes.

"'The sudden realization of its almost limitless possibilities, especially in mixtures with other materials and the spreading of this realization to other countries can be called dramatic, especially when it is realized that our problem in this country is diametrically opposed to that of other countries:—over there a hunt for substitutes for cotton—over here a hunt for new uses for cotton. Therefore, the intense interest in staple rayon in this country is the more significant.

"The greatest advance staple rayon has made is in Germany and Italy, particularly in the latter country. Sanctions in the Ethiopian campaign aided, if not forced, the use and application of staple rayon to such proportions as to dwarf any previous developments in rayon history. While the viscose staple rayon of Snia Viscosa (Italian producer) played the major role in this development, acetate and cuprammonium staple rayon, and very recently Lanital (the rayon from casein), which is used mostly as staple because much of it is spun with wool, have participated in this expansion. It is enlightening in this connection to know that the consumption in the Italian market of staple rayon in the last four months of 1935 was practically as much as the entire consumption in 1934 of staple rayon and rayon combined. Also it is interesting to note that in Italy there is not only an expansion in the staple rayon industry but a switch from the manufacture of rayon to that of staple rayon.

"The cause of this is again mainly for economic reasons, for staple rayon sells at about half the price of rayon. Despite this the profit seems to be still great enough, for capital is more attracted by staple rayon than by rayon. We can observe this trend also in other countries, especially Germany and Japan. It is furthermore to be assumed that simplification and other improvements in the manufacturing process of staple rayon will bring about a considerable drop in manufacturing cost in the near future. This will make staple rayon still more competitive in the rayon and even in the cotton field. Rayon and staple rayon dyed in the spinning solution will also have a bearing in this respect.

"In France staple rayon is gaining rapidly in acceptance. Here we can observe that demand still outstrips supply and it is of interest to note that the demand has been, and is being created by the textile manufacturers rather than by the producer of rayon. This interest enables the producer a obtain and maintain a reasonable price and thereby to realize a good profit in contrast to long filament rayon. The French production of staple rayon for 1936 is estimated at 14,000,000 pounds.

"In England the picture is somewhat different. The English textile magazines carry an unusual amount of promotion and literature in their text as well as advertising pages. This promotion effort is at any rate for the present in no way in proportion to the actual production and consumption of staple rayon. * * * England's production of staple rayon for 1936 is estimated at 6,000,000 pounds. * * *

"Broadly speaking, the physical properties of staple rayon make it particularly suited for the large fine fabrics field, also underwear and drapery field, because of its mixability with other fibers.

"Its field is practically unlimited and suggests at once its use for men's suitings, a practically closed field for rayon as far as linings are concerned."

The viscose staple rayon fiber produced in Italy by Snia Viscosa and called Sniafiocco is being employed in the making of uniform cloth for the Italian army. The proportions used are 60 per cent wool and 40 per cent Sniafiocco, It has the appearance of wool but is softer. Tearing and endurance tests showed the mixed cloth superior to the pure wool.

Surveying the Rayon Industry

With approximately 40 per cent of the 1935 production of bleached sulphite pulp produced on the Pacific Coast sold for rayon and cellophane usage, manufacturers of pulp in this region are becoming more and more interested in the rayon industry as a market for sulphite pulp.

Dr. Ernest B. Benger, general assistant director of the Chemical Department of the E. I. DuPont de Nemours & Company of Wilmington, Delaware, presented an interesting generalized paper on rayon entitled, "Technical and Economical Aspects of Rayon," at the April 13th meeting of the American Chemical Society in Kansas City. The following excerpts from Dr. Benger's paper are of general interest. The paper was published in full in Industrial and Engineering Chemistry:

"Weaving was one of the earliest of the crafts practiced by mankind. This art possibly goes back to the time when men were nomads, as we know that flax threads were woven into fabrics during the stone era, 8,000 to 10,000 years ago, when lake-dwellings were erected.

"Subsequent to the fabrication of linen by the lake-dwellers, flax was cultivated in Mesopotamia, Assyria and Egypt about 5000 to 4000 B. C. It was first used in making lines and nets for fishing and hunting; also as cords for carrying earthenware vessels. The Egyptians used linen extensively in wrapping embalmed bodies. In Genesis, we read that Pharaoh arrayed Joseph 'in vestures of fine linen,' and in Exodus, that the plague of hail destroyed flax because 'the flax was bolled.' Among eastern nations the flax fiber was the most important of all vegetable fibers until the close of the 18th Century when cotton took its place as the supreme vegetable fiber of commerce.

"The silk industry originated in China at an unknown date. However, it is known that an Empress of China, about 2640 B. C., encouraged the cultivation of the mulberry tree, the rearing of the worms, and the reeling of the silk.

"The history of wool and sheep are found in Babylonian records made approximately 4000 B. C., and a certain carving of this era shows figures clad in a ribbed, woolen material. One Babylonian tomb shows a picture of a fulling mill.

"The origin of cotton as a textile fiber is probably also prehistoric. The first known account occurs in the Hindu Veda hymn which was written about 1500 B. C. This hymn mentions cotton in the loom, so we know that it was used for

weaving at that early date. It is probable that cotton was first employed as a textile in the Valley of the Indus.

Early Work on Artificial Fibers

"Not until 1664, when a young English physician named Robert Hooke had made for himself a microscope better than any obtainable on the market, is there any hint of an artificial textile fiber. Among numerous things which he examined were some samples of imitation silk. We do not know who made the fabric nor the composition, but Hooke's comments constitute at once a report on an imitation of silk which existed at that time and a forecast that a great industry might be based on such a process. Robert Hooke's report has commonly been cited as the oldest written record of a synthetic textile. He suggested the possibility of spinning such a fiber with what we now call a spinneret, predicted that it could be made superior to silk, and foretold a profitable development. These forecasts have been fairly well realized, although the best part of three centuries was required for their full achievement. Hooke's suggestions were repeatedly offered by others, although it was nearly one hundred years later that Reaumur next made similar suggestions which were a little more pointed.

"It would be exceedingly interesting, if time permitted, to trace the work of dozens of scientific experimenters from about 1850 to 1912, during which period artificial silk was brought from the vague and nebulous form of an idea to the stage of small commercial production. We cannot fail, however, to mention the one name which is most commonly associated with the development of the rayon industry, namely, Count Hilaire de Chardonnet. As a student, Chardonnet had worked with Pasteur in L'Ecole Polytechnique. He knew of Pasteur's work on a silkworm disease which at one time threatened to wipe out the silk industry in France. Chardonnet no doubt considered the possibility of eliminating such hazards by producing artificially a material which would resemble silk and which would replace it in the textile industry. Like many other investigators of contemporary and earlier times, Chardonnet experimented with syrupy solutions of nitrocellulose, which had been discovered forty years before Schoenbein. Chardonnet drew heavily on the labors of many other European experimenters, but his chief contribution come from his own patience, persistence, and indefatigable energy. In 1884, he filed, with the Academy of Sciences in Paris, a sealed memorandum containing an exact description of his first process for spinning a nitrocellulose solution. Within a year, he obtained patents and started at his birthplace in Besancon, northern France, the first factory production of a synthetic textile. Commercially, this venture was a failure, but, approximately enough, Besancon is today one of the important European centers for rayon manufacture. Chardonnet died in 1925, having lived to see the industry which he founded produce in one year about 140,000,00 pounds of artificial fiber.

"The artificial silk produced by Chardonnet and other contemporary experimenters was neither sufficiently good in quality nor low enough in price to find extensive application in textiles. It happened, however, that the incandescent lamp industry needed cellulose threads from which to produce carbon filaments. This small outlet meant much to the new industry, as the lamp manufacturers did not require filaments of textile grade, and they could afford to pay a price in excess of the cost of silk. At the Paris Exposition in 1889, Chardonnet showed lustrous threads made from cellulose nitrate, subsequently denitrated, and which were, therefore, not excessively flammable. The principles of the nitrocellu lose process, as exemplified by Chardonnet, have continued to the present, although there is now only one factory in the world making this type of yarn, and that one in Hungary. Factories in Belgium, France and America have closed down, unable to meet the competition of more economical processes.

"Chardonnet's exhibit at the Paris Exposition caused a sensation in the world of science and industry, and stimulated interest, not only in the nitrocellulose process but also in other synthetic textile processes.

"The flammability of cellulose nitrate and the high price of the severally-taxed alcohol-ether mixture used as a solvent were responsible for early efforts to replace the nitrocellulose solution by dissolving cellulose in the cuprammonium solution which Schweitzer had discovered in 1857 and which still bears his name. In 1899, this cuprammonium process was successfully commercialized by Fremery and Urban at Oberbruch, Germany. The stretch-spinning process applied to the cuprammonium yarn was the first to produce artificial filaments finer than those of natural silk. The cuprammonium process is operated in Germany, Italy, Japan, Russia, Great Britain and the United States, but it has not been able to approach in output the huge quantities made by the viscose and acetate methods.

Viscose and Acetate Rayons

"In 1891, the English investigators Cross and Bevan, who contributed so much to the chemical knowledge on which all of the cellulose industries are based, discovered that cellulose which has been treated with caustic soda reacts with carbon bisulphide to form a water-soluble alkali salt, sodium cellulose xanthate. Its viscous solution was named "viscose" by the inventors. From this solution acids and salts precipitate regenerated cellulose, the final composition of viscose yarns. It was not until 1900 that the mechanical developments of the Englishmen Stearns and Topham and the accidental discovery of the effect of time on the properties of the viscose solution permitted the rapid development which was soon to enable the viscose process to outstrip its competitors. One hundred sixty-one viscose rayon factories are now operating in twenty-one countries. The United States alone has twenty such establishments operated by fourteen companies, producing about one-quarter of the world output.

C. F. Cross, one of the inventors of viscose, was the first to patent /in 1894) a process for making synthetic yarn from cellulose acetate. The Americans Mork, Little and Walker contributed importantly to the early development of the acetate rayon business, their Lustron Chemical Company of Boston being the first to make the yarn commercially. It remained for the Swiss inventors and promoters Henri and Camille Dreyfus to create a large and successful industry with cellulose acetate. Of the twenty-six acetate plants in the world, five are in the United States.

Unique Position of Rayon

"It has been shown that early experimentation with artificial textiles was promoted by a desire to make a silk substitute. This was no doubt closely connected with the great prestige held by silk for thousands of years. For many centuries silk was the raiment of royalty and nobility because of its rarity, cost, fineness and brilliance. Silk symbolized wealth, power. In the early years of commercial production, rayon was prized chiefly because of its superficial resemblance to silk. This no doubt came from the continuity of the filaments and its sheen. As time has passed, the public has recognized the inherent merits of rayon, realizing that it is a distinct and new fiber with its own special characteristics rather than an imitation of natural silk. For these reasons, in 1924 it was given its own name "rayon". The field of rayon is not the field of silk or cotton or wool; it has a field of its own. Fabrics can be made from it which cannot be made from other fibers, and its value lies principally in the fact that it is different from all of the natural fibers. This is not alone the claim of rayon manufacturers, but it is the verdict of the world's renowned stylists and fabric houses. The search for artificial silk has brought us to rayon and the original quest is not likely to be renewed.

"The failure of the research chemists in their attempt to duplicate silk has given us a fiber produced in greater quantity than silk itself—and the first new fiber in four thousand years at least. Rayon's excellent qualities come not only from the fact that it is different from all the natural fibers. The fact of being chemically produced carries with it the possibility of control. Uniformity is the respect in which yarn excels most. Control can be predicted for any man-made material, given time enough for development. Nature's products, on the contrary, are not only less uniform than man's, but they cannot readily be modified in the making. The silkworm, not being "sales-minded," cannot be persuaded to spin a dull filament. But the luster of rayon is controlled in the manufacturing processes in a range from metallic to chalky. The filaments may be finer than silk or coarser than horsehair, and the predetermined size can be maintained with any reasonable precision. This is a remarkable attainment in view of the fact that in one pound of rayon the filament length runs around 1,000 miles. These filaments are remarkably alike in dye absorption, cross-section, size and other physical properties. . . .

Relation to Other Industries

"Man does not live unto himself, and an industry cannot exist without having some effect upon development and activities in lines that appear totally unrelated. Thus, during the two decades of rapid commercial development of rayon, many problems have had to be solved in order to improve the quality and increase the quantity of output. The solution of these problems has frequently had a bearing on other industries. Let us first consider the cellulose used in making rayon: The wood cellulose originally used in manufacturing viscose rayon was sulphite pulp which had been developed for making bond papers. Ten years ago, for example, a standard pulp for rayon manufacture cost $95.00 per ton and contained about 87% alpha cellulose. A pulp from the same manufacturer, standard for making rayon, now sells for $70.00 a ton,

contains 4% more alpha cellulose, and the mineral impurities have been reduced to one-quarter their former amount. Simultaneously, the color of the pulp has been greatly improved and this results directly in whiter yarn. At the same time, pulps approaching cotton linters in alpha cellulose content have been produced. These statements fail, however, to reflect the most important thing which the pulp companies have done, namely, the improvement in uniformity of their product from bale to bale, lot to lot, and month after month. Precise control is required on all rayon manufacturing processes, and variability of many raw materials had to be overcome before the process could be operated to produce a uniform and high quality of rayon yarn. The pulp companies are to be recommended for the vigorous and cooperative way in which they have thus assisted in the development of rayon. The present tendency of the rayon industry toward higher tenacity and finer filament yarns continues to place increasing requirements on the quality of pulps. It is to be expected that the producers of chemical cellulose will be even more strongly pressed in the future for further improvements in the quality of their product.

"The improvement of pulp resulting from the demands of the viscose rayon producers has also made it possible for the pulp producers to offer materials for nitration and acetylation. Wood pulp nitrates and acetates are used in the manufacture of a variety of plastics and finishes. Even the paper industry, whose raw material was first used in viscose manufacture, has now employed the new pulps for specialty paper products. They have also partly replaced rags in rag paper and vulcanized fiber for which their purity, uniformity, low cost and good color are much appreciated. Chemical pulps are also used in filling urea-formaldehyde and phenol-formaldehyde plastics, and in the dialyzers widely used for caustic soda recovery. . . .

"It has been shown that the rayon industry was of European origin. The study of cellulose, stimulated by its commercial applications, also has been largely European. Our fundamental concepts of cellulose were laid by Cross, Bevan, Hess, Irvine, Haworth, Denham, Karrer, Staudinger, Heuser, Schwalbe, Meyer and Mark. But now that America leads the nations of the world in the production of rayon it, too, is beginning to turn to the exploration of cellulose chemistry. The researches of Hawley, Kraemer, Farr, Sponsler and Dore are yielding important results. The universities are showing increased interest in the constitution and behavior of cellulose. Certain chemical industries are carrying on fundamental studies in their own laboratories. The Boyce-Thompson Institute, The Forest Products Laboratory, The Paper Institute and The Textile Foundation have made important contributions. This new American interest in cellulose should lead to a broader knowledge and more applications of cellulose. . . .

Production Figures

"In the United States, commercial production of viscose rayon started in 1911, in which year 360,000 pounds were made. In the next year three times as much was made, and from then on, the United States production grew on the average about 30% per year until 1930. The rate of increase in production was slower during the depression and it required five years for the industry to double its output. Even this is not a bad record for an industry during this most severe depression. One of the junior members of the family, however, namely, the acetate yarn, showed a greater rate of increase. In 1935, 47% more acetate yarn was made than in the previous year, but still nearly 200,000,000 of the 256,000,000 pounds of rayon produced in 1935 were viscose. This involved the making of about 225,000,000 pounds of cellulose xanthate. I do not know of any synthetic material which is produced in larger quantity in America today.

"This huge production of rayon furnished employment to about 60,000 workers. Over $53,000,000 worth of materials were consumed and about $60,000,000 was paid out to employes. In 1935, there were twenty-five plants manufacturing the product, from Massachusetts west to Ohio, and from the Canadian border to Georgia.

"World production is approaching the billion pound mark. In 1929, about 15,000,000 pounds were imported into the United States, but the quantities brought in are now insignificant despite the fact that Japan is pushing the United States for position as the largest producer.

"During the first ten years of its domestic manufacture, rayon had a very substantial growth and by 1921 it had become fully recognized as an important textile fiber. The total domestic consumption was then 20,000,000 pounds. In 1935, the volume of all textiles consumed was greater than in 1921, but rayon's increase was prodigious. Cotton increased 4%, wool increased 9%, silk increased 46%, while rayon increased more than 1000%.

Price Stability

"Price has been an important factor in expanding the use of rayon. Rayon is sold in a form which for most purposes is ready to use, while processing costs of the other fibers result in yarn prices that in the case of wool and silk are considerably higher than for rayon and even some cotton yarns are higher priced than some rayon yarns.

"In recent years the prices of all fibers have been greatly affected by disturbed market conditions. The prices of the natural fibers, however, have fluctuated far more than has rayon. Rapid and wide fluctuations in rayon prices are uncommon and in the last few years these prices have not only been relatively more stable but they have worked steadily downward. Speculation in the markets is an insignificant part of the business of a processor of rayon goods, and this has no doubt been one of the factors making for its success.

"In the year 1935, United States rayon consumption reached the astonishing total of over 250,000,000 pounds. This was four times our consumption of silk, 60% of wool, and about 9% of the cotton consumption.

Advantages of Rayon

"The low and decreasing cost and the price stability of rayon have contributed to the popularity of the yarn, but these factors have been inconsiderable as compared with the character of the fabrics which can be produced with this new fiber. Rayon resembles silk in that it consists of continuous filaments, being the only other fiber having the advantage of eliminating long, tedious and expensive processes involved in producing a yarn from short fibers. The knitting industry was first to adopt rayon in a large way, and its use in knitting has steadily widened. However, whle rayon has held its place in the knitting field, 800,000,000 yards of woven fabric were loomed from rayon in 1935—representing 71% of the rayon yarn produced in this country. These woven fabrics varied from sheer cloths made with fine denier multi-filament yarns to heavy cloths of the wool type. They included delicate transparent velvets and sturdy plushes; light smooth sheers and durable rough crepes; satins with a bright glitter and lusterless "angel-skin" effects. Many fabrics were created with characteristics which could not be achieved by the use of other textile fibers.

"But it is not only beauty of appearance and attractiveness of touch and drape that are secured through the use of rayon. This new fiber also contributes to the serviceability of fabrics. For example, it is found satisfactory in such uses as bathing suits and sails for racing boats, where strength and dependability are essential.

"It has an important place in the men's wear field. This year, many men found themselves wearing summer suits made of rayon. Handsome shirtings have been eagerly accepted by the good retail shops because they are cool, pleasant to the touch, and because of the splendid color effects that rayon affords.

"The diversity of luster, filament size, and denier control inherent in rayons has been ingeniously used by fabric designers and stylists to produce the new and interesting textures demanded by exclusive dressmakers of metropolitan centers.

"Most of our textiles are made by exceedingly laborious and expensive processes. The operations required to produce yarns from the cocoon of the silkworm, the wool from the sheep, and the seed-hair of cotton are tedious and costly operations preliminary to cloth fabrication. Moreover, the idiosyncrasies of individuals of a species, the varying factors of climate and weather, the ravages of disease and insects interfere with the regularity of the fibers. We must take these fibers as we find them; and we do not foresee extensive changes in these fibers through breeding or selection. On the other hand, the continuous, man-made fibers are produced directly as yarn, ready for the loom or knitting machine. The specifications of such fibers can be controlled accurately and over a wide range.

Future of Rayon

"These are the facts about textile fiber production today. What of the future? Will fibers be produced embodying the warmth of wool, the elasticity of silk, the low cost of cotton, and without having the deficiencies of natural fibers? With the accomplishments of the rayon industry before us, it would take a courageous man to say that these things will never come to pass. We may, on the contrary, look forward to a continued diversification of synthetic textile yarns. Perhaps it is not too much to expect that in the next century the chemical industry will supply raw materials possessing the desirable characteristics of the natural fibers, silk, wool, and cotton. We are now too dependent on Nature with its pathetic paucity of offerings and its lax control of products. We may hope for freedom to choose from a large number of synthetic fibers covering a wide range of properties, and with each variety under scientific control. Thus the world may be enriched by the low cost, uniform and versatile materials from which can be produced more useful, more durable and more beautiful fabrics."

CROWN ZELLERBACH BECOMES OPERATING COMPANY

To simplify its corporate structure, Crown Zellerbach Corporation has under way dissolution of certain of its subsidiary companies, among which are Washington Pulp & Paper Corporation and National Paper Products Company, Crown-Zellerbach thereby becoming both a holding and an operating company.

BANKUS ALSO VICE-PRESIDENT PACIFIC MILLS

In the September number of this journal it was reported that Mr. Albert Bankus had been elected a vice-president of the Crown Willamette Paper Company and the Crown Zellerbach Corporation.

His election to a vice-presidency of Pacific Mills, Limited was accidentally omitted. Mr. Bankus is now a vice-president of the three corporations. Pacific Mills operates at Ocean Falls, British Columbia.

WESTMINSTER IMPROVES EARNINGS

Outlook favoring a rise in prices will probably improve the financial position of Westminster Paper Company this year, but even in the face of continuing depression last year the company's net profit was $21,825, as compared with $12,968 for the previous year.

After payment of the usual 4 per cent dividend on the common shares requiring $19,116, there was an addition of $2,709 to surplus, bringing the surplus balance to $26,650.

"Prices were no better last year; in fact we had to sell at even lower prices at times, but we managed to increase our profit by drastic economies in manufacture and in increased sales," reports President J. J. Herb. Sales last year amounted to $666,305 as compared with $558,845 the previous year. The company's fiscal year ended July 31.

"We anticipated that selling prices would advance from the prevailing low levels," said Mr. Herb, "but this failed to materialize last year, and we were forced in some cases to cut still lower to maintain our competitive position."

The company's statement shows gross profit after deducting $15,561 for discounts and allowances and $484,558 for cost of sales at $166,186 against $144,317 the previous year. Miscellaneous income consisting of interest on the 6½ per cent first mortgage bonds of Pacific Coast Paper Mills at Bellingham, amounted to $6,175, bringing gross income to $172,361 against $150,492.

Selling and administrative expenses were $85,569 compared with $75,284 the previous year, leaving profit before depreciation, debenture interest and income taxes of $86,792 against $75,209. After $38,755 for depreciation, $15,212 for debenture interest and $11,000 for income taxes, net profit was $21,825 against $12,968.

The company's balance sheet shows current and working assets at $191,730 compared with $193,935 a year previously. Current liabilities were $83,556, leaving net working capital at $108,174 against $122,570 the previous year.

Sinking fund for the 6½ per cent first mortgage debentures issued to the amount of $300,000 was increased during the year to $54,660 from $42,002. The major part of the sinking fund is represented by debeutures, at $54,500, so that the net amount outstanding is $245,500.

INGRAM NEW GENERAL MANAGER WEYERHAEUSER TIMBER CO.

Mr. Charles H. Ingram, assistant general manager of the Weyerhaeuser Timber Company since June of 1929, was appointed general manager of the company on October 1st by Mr. J. P. Weyerhaeuser, Jr., executive vice-president.

At the same time Mr. Weyerhaeuser announced the resignation of Mr. F. R. Titcomb who had been general manager for seven years, and expressed his regret at Mr. Titcomb's withdrawal from the company's management. Mr. Titcomb is now in the East and is not expected to return to Tacoma until the latter part of October. His future plans have not been announced.

CHARLES H. INGRAM
General Manager
Weyerhaeuser Timber Company

Mr. Ingram has worked up through the Weyerhaeuser organization, and has acquired a broad knowledge of logging, sawmilling, marketing, and the executive policies of the company. Since the establishment of the Pulp Division and the completion of the first Weyerhaeuser pulp mill at Longview, Washington, late in 1931, he has been keenly interested in the manufacture of quality wood pulp from the company's timber holdings.

A graduate of Dartmouth College in 1915, Mr. Ingram served in the World War with the 20th Engineers. Upon his discharge he entered the Weyerhaeuser organization in July, 1919, working in the shipping department of the company's lumber mills at Everett, Washington. He later became superintendent of the night shift at Everett, leaving in April, 1921, to go to the Snoqualmie Falls mill at Snoqualmie as assistant manager under Mr. Titcomb, who was general manager.

When Mr. Titcomb left Snoqualmie Falls in 1925 Mr. Ingram succeeded him as general manager. He remained as general manager until June of 1929, when he was transferred to the executive offices in Tacoma to be assistant to Mr. Titcomb, who had become general manager of the Weyerhaeuser Timber Company a short time before.

GRAYS HARBOR AWARDS CONTRACT

At the end of September the Grays Harbor Pulp & Paper Company of Hoquiam, Washington, awarded the general contract for the buildings to house its new addition to the Austin Company of Seattle.

The contract called for the completion of the new digester building and the filter and screen room within 40 days, ready for the installation of machinery. Piling has already been driven for the new buildings which with equipment will increase the Grays Harbor capacity by 50 tons per day.

The digester building is to be five stories in height with a base 30 by 32 feet. The filter and screen room building will be two stories 66 by 140 feet.

Mr. W. S. Lucey, general manager of the Grays Harbor Pulp & Paper Company, stated that the company expected to have the new addition ready for operation by February 1st, and that it would add from 50 to 60 new employees to the 600 new working in the mill.

PORT TOWNSEND INSTALLING RECOVERY FURNACE

A Tomlinson black liquor recovery furnace is being installed in the Port Townsend, Washington, kraft pulp and paper mill of the Crown Zellerbach Corporation. When completed the new smelter will handle 80 tons per day.

LOWENSTEIN RETURNS TO COAST

Mr. A. B. Lowenstein, vice-president of Crown Zellerbach Corporation, whose headquarters for the past several years have been in New York City, has been transferred to the San Francisco headquarters of the company.

Mr. Lowenstein was manager of the National Paper Products Company's kraft pulp and paper mill at Port Townsend, Washington, before going to New York.

NICHOLS SUCCEEDS LOWENSTEIN

Taking over the work of Mr. A. B. Lowenstein, vice-president of the Crown Zellerbach Corporation with headquarters in New York, Mr. H. O. Nichols has been appointed manager of the eastern division of the Crown Zellerbach Corporation with headquarters at 122 East 42nd Street, New York City.

JOHN OWEN PASSES AWAY

Mr. John R. Owen died of a heart attack while on a business trip to Montana, October 2nd.

Mr. Owen, who had won many friends among the pulp industry on the Pacific Coast through his cheerful personality, was sales manager of the Northwest Lead Company in Seattle.

The funeral was held in Seattle on October 6th.

L. A. FIBREBOARD NEWS

Mr. Cort Majors, sales manager for Fibreboard at Los Angeles, last month got away from boxes and board for a short time while he went to Lake Tahoe to get away from it all.

Mr. Harry Miller, office manager, was another who slipped away. He turned his work over to Albert Podmore, pointed his car toward Grand Junction, Colo., and spent a while there visiting relatives.

Mr. Bud Lewis, head of the sales promotion department, has been walking on crutches for a while, having slipped and broken a bone in his foot. The injury was not serious, but painful and inconvenient.

The San Francisco office was represented herein recent weeks by a list of top-notchers, including Mr. D. H. Patterson, vice president and general manager; Mr. E. J. Farina, general sales manager, and Vince Hobbs.

Manager Bruce Brown recently had an opportunity to recall old paper mill days in Coralitos and Antioch when Mr. Andy Anderson, one of the old-timers in 1902, dropped in for a visit. Mr. Anderson has been in charge of the beater room for "Certainteed" for the last 14 years.

SUPERINTENDENTS LAY PLANS FOR DECEMBER MEETING

According to General Chairman John E. Hassler plans for the December 4th and 5th meeting of the Pacific Coast Division of the American Pulp and Paper Mill Superintendents Association are progressing nicely.

The annual winter meeting of the superintendents will be held Friday and Saturday, December 4th and 5th at the Multnomah Hotel, Portland, Oregon.

Fred Boyce to Attend

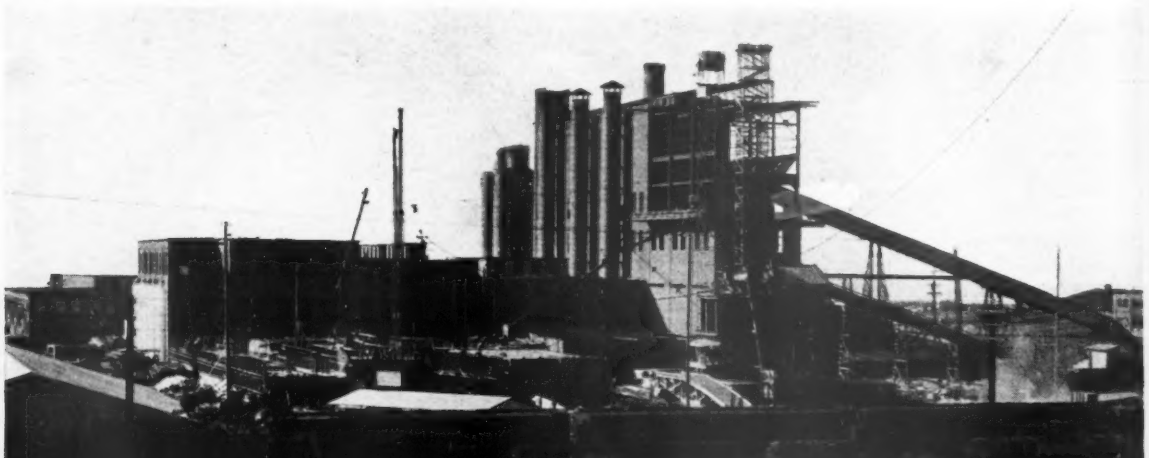
Mr. Fred C. Boyce of Wausau, Wisconsin, former president of the American Pulp and Paper Mill Superintendents Association, and widely known as its founder, will be present and will talk at the Saturday evening banquet.

Briefly, the program will include a golf tournament Friday afternoon, December 4th and an informal party that evening at the hotel.

Saturday morning the papers will be presented. Following luncheon the afternoon will be devoted to a round table discussion of operating problems. The banquet in the evening will be followed by dancing.

BOB YOUNG A VISITOR

Robert Young, assistant manager of Pacific Mills, Limited, Ocean Falls, B. C., was Seattle visitor the middle of September. Mr. Young made a vacation trip to the States.



SOUNDVIEW WORKING TOWARD FEBRUARY 1st

The 120 tons per day addition to the Soundview Pulp Company's bleached sulphite pulp mill at Everett, Washington, is being rushed so that operation may be started February 1st, 1937.

Two shifts, totalling nearly 500 men, are busy erecting steel, pouring concrete and laying brick. In the upper picture, looking West toward Puget Sound, is shown at the right center, the digester building addition with the brick work more than half way up. At the left and in the center the concrete forms for the new screen room and the new bleach plant, appear.

The lower picture, looking Northeast, shows the concrete work on the new bleach plant and screen room, with the steel work for the digester building addition appearing at the upper left.

These photographs were taken October 6th.

COAST NEWS PRINT PRICE RAISED

Contract $42.50 — Spot $46.00

Early in October Pacific Coast news print prices for 1937 were announced by the Crown Zellerbach Corporation and the Powell River Company, largest coast producers.

A contract price for 1937 of $42.50 was announced, the same price as in the East. However, the strengthening of the news print situation to the point where demand nearly equals the supply was indicated by the announcement that the price for spot delivery of news print on the Pacific Coast for 1937 will be $46. All news print sold on a non-contract basis will sell at the $46 price.

Current operations of the news print industry throughout the world are approaching capacity. While there is at present practically no spot market for news print in the East, the steady increase in consumption indicates that a spot market may not be far off in both the East and the West. The industry is approaching a season of heavy consumption and many newspapers will find their contracts insufficient to cover unexpected requirements. As a result they will be forced to go into the market for spot delivery of extra tonnage and will have to pay a higher price.

European news print is apparently less of a factor than for some years back due to increased consumption of paper in Europe. European tonnage available during 1937 for spot delivery is not expected to be sufficient to disturb the market for American and Canadian producers.

This is the second successive year of news print price increases. The higher price of 1936 deliveries ($41) has not retarded sales. Production has kept mounting and today is higher than ever before. As a result the Canadian news print industry took a more determined stand on price policy. The first situation to be cleaned up was the export market where news print has been selling, in some instances, at less than cost. Last June a sharp increase was put in force. The advance ranged from $5 to $10 a ton and affected approximately 150,000 tons. While still too early to say how much of this tonnage will be lost to Canadian producers, it is expected that the gain in dollar revenue will more than offset the loss in tonnage.

The next major price move attempted had to do with the United States market. Plans for a substantial jump miscarried when Great Northern Paper Company, which had set the 1936 price, upset calculations by announcing an advance of only $1.50 a ton on 1937 deliveries, making the delivered price $42.50.

While there was a lack of cooperation among news print producers this year, indications are that a more remunerative price is not far off. Productive facilities are limited, and if sales keep increasing, the price situation will adjust itself automatically. Moreover, manufacturers have taken advantage of the past seven lean years to effect much needed economies. They are in a position to produce paper at a lower cost than ever before and so take full advantage of any improvement.

Demand for news print should continue to increase. Per capita consumption in countries outside North America has advanced remarkably, though still under that reported for the United States and Canada. As for the domestic field, sales declined sharply after 1929. The comeback has been marked, but there is still a lag of some 400,000 tons in present requirements compared with those reported before the collapse.

A continued increase in American requirements would enable those mills with an unduly high proportion of low-priced export tonnage to switch over to the more profitable U. S. business. This would relieve, if not eliminate, pressure from such companies to dictate policies to those companies more fortunately situated in respect to tonnage.

To date Canadian mills have had no difficulty in meeting the improved demand. Mill operations are over 80 per cent of effective capacity in the east and close to 100 per cent on the coast. A spot market for news print is not regarded as out of the question by the end of this year. This would make a further advance in price in 1938 inevitable.

HOWARD SMITH BUILDING WASTE LIQUOR BY-PRODUCTS PLANT

The Howard Smith Paper Mills, Limited, of Cornwall, Ontario, have recently announced the formation of a wholly owned subsidiary known as Howard Smith Chemicals, Limited, which is to build a plant for the extraction of vanillin from waste sulphite liquor. Vanillin is employed in the manufacture of synthetic vanilla flavoring.

The new plant, which will be completed early next year, will have a capacity of approximately 400 pounds per 24 hours, of which it is proposed to produce at the present time 100 pounds per day. The plant is being so designed and built that capacity can easily be increased when demand warrants.

Capital structure consists of $100,000 of 6 per cent cumulative preferred stock and 20,000 shares of no par value common.

LARSON AND McNAIR VISIT MILLS

Mr. L. K. Larson and Mr. William J. McNair of the sales department of the pulp Division, Weyerhaeuser Timber Company, visited the company's new unbleached sulphite pulp mill at Everett, Washington, the latter part of September and the early part of October. It was their first opportunity to become intimately acquainted with the new plant. They also visited the Weyerhaeuser bleached sulphite pulp mill at Longview, Washington.

Mr. Larson is located in New York City and Mr. McNair in Chicago.

In August the Weyerhaeuser Pulp Division's other two sales representatives, Mr. Henry F. Bigelow and Mr. William Geiger, spent some time inspecting the new Everett mill. Mr. Bigelow lives in Clinton, Massachusetts, and Mr. Geiger in Chicago.

SOUNDVIEW ISSUES PREFERRED STOCK

Stockholders of the Soundview Pulp Company have been asked to approve at a meeting to be held in San Francisco, October 19th, a plan to issue $2,500,000 of 6 per cent preferred stock, $100 par value.

Soundview directors have approved a plan for disbursing earnings to stockholders, thereby avoiding the New Deal surtax on undistributed profits, and at the same time holding a large portion of the company's funds in the treasury to be used for normal corporate purposes.

The plan is to pay dividends in preferred stock instead of cash. Stockholders at a meeting October 19 will be asked to authorize a $2,500,000 issue of 6 per cent, $100 par preferred stock. If this issue is approved by stockholders, directors plan to vote a 50-cent special dividend, payable either in cash or 1-200 share of new preferred stock. When this dividend is distributed, directors plan to vote additional special dividends as earnings allow, payable in preferred stock.

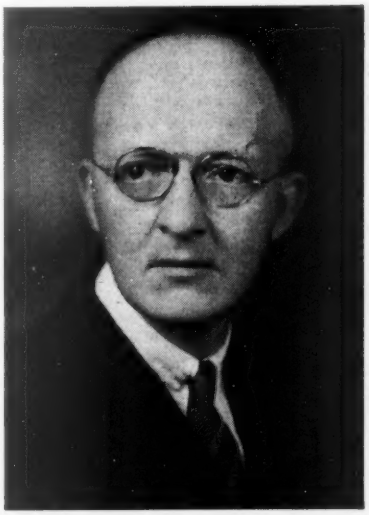
The foregoing plan, adopted now by both Soundview and Caterpillar Tractor, is believed to be the first satisfactory proposal for avoiding surtax penalties on undistributed earnings. Legal obstacles blocking other proposed plans are thought to be entirely avoided through the declaration of more than one dividend, the first in optional form.

The initial quarterly dividend on Soundview's new preferred issue will be payable November 23, 1936.

GRANT AT COLUMBIA RIVER

Mr. Thomas H. Grant, sulphite superintendent at the Lebanon, Oregon, mill of the Crown Willamette Paper Company, moved to Vancouver, Washington, the middle of September to assume his new duties as sulphite superintendent for the Columbia River Paper Mills.

He succeeds Mr. Niles Anderson, who has become assistant superintendent of the the St. Regis Kraft Company at Tacoma, Washington.



THOMAS H. GRANT
Sulphite Superintendent
Columbia River Paper Mills
Vancouver, Washington

CORROSION DISCUSSED AT EVERETT MEETING

At the first TAPPI dinner meeting of the 1936-1937 program held at the Everett Yacht Club, Everett, Washington, some seventy-six men heard an interesting illustrated talk on "The Corrosion of Metals," by Mr. F. L. LaQue of the Development and Research Division of the International Nickel Company. Following his talk Mr. LaQue answered questions and participated in the discussion.

Mr. G. S. Brazeau, manager of the Everett mill, Pulp Division, Weyerhaeuser Timber Company, was in charge of arrangements for the first TAPPI dinner meeting of the season. He was assisted by Mr. Earl G. Thompson, secretary-treasurer of the Pacific Section of TAPPI.

The speaker was introduced by Mr. Andreas Christensen, technical director of the British Columbia Pulp & Paper Company, who came from Vancouver to attend the meeting.

Instrumental in bringing Mr. LaQue to the Pacific Northwest was Mr. William Anderson, president of the Eagle Metals Company, representatives for the International Nickel Company.

Mr. LaQue has been in charge of research and experimental work on corrosion of metals for the International Nickel Company for nine years. He is a member of Committee B-3 on Corrosion of Non-Ferrous Metals of the American Society for Testing Materials, vice-chairman of the Materials for Construction Committee of TAPPI and a member of the Technical Advisory Committee of the American Society of Heating and Ventilating Engineers.

CORROSION OF METALS

The following notes cover roughly Mr. LaQue's talk. Limitations of space prevent discussions of such particular corrosion phenomena as oxygen and metal ion concentration cells, active: passive cells, dezincification, common fatigue and the graphite corrosion of cast iron, that were referred to briefly in Mr. LaQue's talk at the Everett dinner meeting.

Those concerned with the manufacture of pulp and paper certainly have to contend with the effects of corrosion without being able to do very much toward controlling its causes. The solution of their corrosion problems usually involves the proper choice of material to suit the particular conditions of service and this choice is determined either by experience or by preliminary tests. However, conditions vary from mill to mill and in order to be able to reason from one experience to another or to design or interpret a corrosion test it is useful to know something about the mechanism of corrosion, the factors that control its extent and the response to these factors of different types of corrosion resisting material. It is hoped that these notes may be helpful along this line.

Without going too much into the theories of corrosion it may be said that the fundamental reaction is the replacement of hydrogen in the solution by the metal going into solution or being corroded. In aqueous solution one cannot occur without the other. Consequently, in order for corrosion to proceed, hydrogen must be removed from the system either in the form of molecular hydrogen as a gas or by reaction of the hydrogen atoms with oxygen or other oxidizing substances in the corroding liquid. In practice metals are rarely used in solutions from which they are able to evolve hydrogen as a gas to an appreciable extent, since in such cases the rate of corrosion would be too high to enable the successful use of the metal. As a result the reaction between hydrogen atoms and oxidizing substances is usually the most important factor in the corrosion process. Likewise, the hydrogen ion concentration of the solution is very important since the greater the hydrogen ion concentration or acidity, the greater will be the tendency to corrode, except in the case of amphoteric metals like aluminum which are readily soluble in strong alkalies of very low hydrogen ion concentration.

It is a well known fact that ordinary steel will not corrode to any appreciable extent in water that is free from dissolved oxygen or other oxidizing substances, and as a result corrosion of boiler tubes may be minimized by de-aerating the feed water. As a matter of fact, one means of removing oxygen from the feed water is to allow it to be consumed in the reaction by which scrap iron is allowed to corrode in the water before it reaches the boiler. The tendency of the water to corrode is not changed by de-aeration but the oxygen that would enable corrosion to proceed is removed from the system.

What is true of iron in essentially neutral solutions like boiler feed water is also true of more corrosion resistant materials in acid solutions from which iron would evolve hydrogen but in which the relatively low solution potentials of the corrosion resistant materials are insufficient to cause discharge of hydrogen ions and evolution of the gas. For example, Monel metal will not corrode at all in air-free sulphuric acid in concentrations under about 80 per cent. Above that concentration the acid becomes oxidizing, and can corrode without the help of outside oxidizing agents. Likewise, tests of Monel in 5 per cent sulphuric acid saturated with mixtures of nitrogen and oxygen varying in oxygen content will show that the rate of corrosion is directly proportional to the oxygen content of the solution. This example is typical of the behavior of all materials the corrosion of which depends directly upon the concentration of oxidizing substances in the corroding liquid.

If all materials behaved the same in their response to the effects of oxygen, the study of corrosion would not be too complicated. But we all know that while oxidizing substances cause corrosion they also prevent it. Aluminum reacts with oxygen to form an oxide coating without which it would dissolve in most solutions including hot water. Similarly, the reactive element chromium depends on its oxide for its resistance to tarnish and other forms of corrosion. Elements like chromium not only have the property of being able to protect themselves against corrosion but also are able to confer this property on other less reactive metals with which they may be alloyed. The most important example of this is, of course, the group of alloys known as the stainless steels. These alloys contain sufficient chromium to enable them under many conditions, to form a protective oxide film upon which their corrosion resistance depends. Under conditions where these films are not formed, or are destroyed, these alloys are as reactive as ordinary steel and, in fact, tests in hot hydrochloric and sulphuric acids may show higher corrosion rates for stainless steels than for mild steel. Such other elements as nickel and molybdenum supplement chromium by speeding up the rate of formation or repair of protective films and by increasing their stability or resistance to breakdown.

It will be seen then, that when we come to consider materials like stainless steel we must recognize that dissolved oxygen or other oxidizing agents may play a dual role, on the one hand preventing corrosion by maintaining an inert or passive oxide film and on the other hand accelerating corrosion where the passive film is destroyed. The next result as indicated by the behavior of the material in service, represents the balance of power between the protective and corrosive effects of the oxidizing agents.

This can be illustrated by comparing Monel and 18-8 chromium nickel stainless steel in 5 per cent sulphuric acid saturated with mixtures of nitrogen and oxygen at atmospheric temperature. When the acid is free from oxidizing substances as for example, when saturated with nitrogen or hydrogen, the 18-8 alloy will corrode freely and Monel not at all. As the oxygen content of the saturating gas is increased the corrosion of the Monel will be increased in proportion while the behavior of the stainless steel will be erratic and corrosion rates will fluctuate through wide limits up to an oxygen concentration of the gas of about 20 per cent.

Above 20 per cent oxygen the oxidizing effect will be sufficient to insure passivity of the stainless steel and corrosion will be practically nil, whereas the corrosion of Monel will tend to increase uniformly with the oxygen concentration. At 20 per cent oxygen some pieces of stainless steel will remain passive while others will be active, representing differences in response to the effects of the oxidizing influence. It is interesting to note that 20 per cent oxygen is near the oxygen content of dissolved air so that air saturated sulphuric acid is near the critical limit of oxidizing power for stainless steel. Additions of more nickel, molybdenum or chromium tend to decrease the oxygen concentration or oxidizing power required to maintain passivity so that the more highly alloyed alloys are more surely resistant to corrosion in solutions of low or uncertain oxidizing power.

This dual effect of oxygen also complicates the effect of temperature on corrosion. Of course the normal effect of temperature is to cause an increase in the velocity of the chemical reaction of corrosion. However, the solubility of air, or oxygen, in solutions decreases with rising temperature so that with materials like Monel in dilute sulphuric acid the maximum corrosion does not occur at the boiling point, where the dissolved oxygen content is low, but, at about 180 degrees Fahrenheit where the conditions of tem-

perature and oxygen availability are most favorable to corrosion. Likewise, the decrease in oxygen solubility with rising temperature, has a profound effect on the behavior of such materials as the stainless steels, since not only is the tendency to corrode increased but the oxidizing or protective power of the solution is decreased and there may be a very sharp and considerable increase in corrosion rate for a moderate increase in temperature. In other words, the behavior of stanless steels in hot solutions may be entirely different from their behavior in the cold and where hot solutions of uncertain oxidizing power must be handled the choice of alloy must be given extra careful consideration.

An increase in the relative velocity between the corrosive and the metal usually tends to cause an increase in corrision by bringing more corrosives to the corroding surfaces and by cutting down the thickness of the stagnant layer of liquid on the metal surface through which corrosion products must diffuse out and oxygen diffuse in. In some cases protective corrosion products are formed which shield the metal from attack up to some critical velocity where they may be wiped off with a sudden and violent increase in corrosion. For example, ordinary steel is able to resist concentrated sulphuric acid at low velocities through the formation of an adherent protective corrosion product. At high velocities this may be destroyed and corrosion will proceed at a rapid rate.

Similarly, with condenser tubes in marine service, with water velocities of about two to three feet per second Admiralty brass is often good enough, but when the velocities are increased to eight feet per second or more, protective films of corrosion product are broken down and failures of Admiralty brass occurs, especially at the inlet end of the tubes where impingement of air bubbles in the water promotes destruction of the protective films.

Condenser tube materials, such as a 70 per cent copper 30 per cent nickel alloy have been developed which are able to maintain a protective coating of corrosion product under severe conditions of velocity and impingement.

While speaking of protective corrosion products in a sense other than that previously referred to with the stainless steels, it may be said that low alloy steels such as those containing small percentages of copper, nickel, chromium or molybdenum owe their superiority over unalloyed steel or iron to their ability to develop a type of rust film which is adherent, continuous and which reforms relatively quickly if destroyed. Atmospheric exposure is favorable to the development of rust films of the proper protective types, but in submerged exposure, where corrosion products may be carried away before they have a chance to form a protective coating these steels may show no important superiority over mild steel. As a result these steels find their most important applications where resistance to atmospheric corrosion is the principal consideration.

Up to now we have been considering only normal corrosion which is probably an electro-chemical phenomenon, but where the behavior of a material is not influenced by its contact with some other metal or alloy. Where such metal to metal contacts exist there may be an acceleration of the corrosion of one of the metals in the couple and galvanic protection of the other.

It is possible to arrange some common metals and alloys in a galvanic series such as the following:

Magnesium
Aluminum
Duralumin (17ST)

Zinc
Cadmium

Iron
Chromium Iron (active)
Chromium Nickel Iron (active)
(Stainless Steels)

Lead-Tin Solders
Tin
Lead

Nickel
Brasses
Bronzes
Monel
Copper

Chromium Iron (passive)
Chromium Nickel Iron (passive)
(Stainless Steels)

Silver Solder

Silver
Graphite

Gold
Platinum

As a general rule the coupling of two materials in the list will cause an acceleration of the corrosion of the material higher in the list. It will be noted that the materials have been arranged in groups and in most cases no serious corrosion will occur between couples in the same group.

The chromium alloys (stainless steels) have been put in two locations, one representing their passive condition where the protective oxide films are intact, and the other the active condition where the oxide films have been destroyed. Since in many cases it is difficult to predict their galvanic behavior though, as a general rule, a stainless steel will be passive, or relatively noble in a solution which it resists well outside of galvanic couples. It may be noted also that stainless steels of the 18-8 type will not be rendered active solely as a result of coupling with some other metal or alloy. The development of activity if it occurs will be determined by the oxidizing nature of the corroding solution rather than by the identity of the other metal of the couple.

In sulphite liquor it has been noticed that 18-8 stainless steel is sometimes less noble (corroded) and sometimes more noble (protected) by non-ferrous alloys such as bronzes.

The more highly alloyed compositions now being used in sulphite mills are more likely to be passive and, as a general rule, the popular stainless steels should not suffer from their coupling with bronzes in sulphite liquors. However, it is wise to avoid galvanic couples whenever possible to remove all possibility of danger.

A fact often overlooked in studies of galvanic corrosion is that the extent of the galvanic effect is determined largely by the relative areas of the two metals in the couple. The larger the relative area of the more noble metal the greater the galvanic effect. For example, tests in sodium chloride with couples of iron and copper in which the area of the iron specimens was kept constant and the area of the copper specimens were varied through wide limits showed that the extent of galvanic corrosion of the iron was almost directly proportional to the area of the copper with which it was coupled. It should be noted that in these tests, the measured potentials between the iron and copper specimens were the same whether the area of copper was large or small so that a potential measurement, of itself, is a far from trustworthy guide as to the probable extent of galvanic corrosion. A practical example illustrative of the effect of relative areas is that it would be safe to use copper rivets in steel plates but unsafe to use steel rivets in copper plates to be immersed in sea water. As a general rule it is wise to avoid combinations of metals where the material known to be or suspected of being most noble is considerably larger in area than the other metal.

It is evident from this discussion that in making corrosion tests or in interpreting their results it is necessary to consider carefully the several factors that may influence corrosion. Furthermore, it should be obvious that no simple or accelerated test will serve to rate materials in order of merit when it is realized how different may be their responses to such simple factors as aeration, temperature and velocity. Carefully designed laboratory tests may separate the probably good materials from the obviously bad ones, but only actual service experience or carefully conducted tests in operating equipment will determine the best choice of material for a given application.

Mr. LaQue illustrated his talk with slides presenting graphically the results of corrosion tests.

Those Who Attended

Following are the names of the men attending the TAPPI dinner meeting held at Everett:

Gerald Alcorn, C. M. Anderson, William Anderson, Glendon Andrews, Geo. S. Backus, Berk Bannan, Phil Bannan, Thos. J. Bannan, C. H. Belvin, Dr. H. K. Benson, W. L. Beuschlein, G. S. Brazeau, Jim Brinkley, Harold Brown.

Richard S. Buckley, Leo S. Burdon, John M. Carlson, Robert Carlson, Kenneth Chapman, R. E. Chase, Andreas Christensen, Walter Clinch, Sidney M. Collier, J. V. B. Cox, J. M. Cyner, Frank L. Dietz, James P. V. Fagan, James Fitch, O. E. Fox, Irving Gard, A. S. Gerry, Harold G. Griep, De Vane Hamilton, L. E. Hill, Arthur Hilmo, A. H. Hooker Jr., K. L. Howe, W. F. Hynes, R. M. Inkster, H. M. Jones, John O. Kjome, B. L. Kerns, K. A. Knudson.

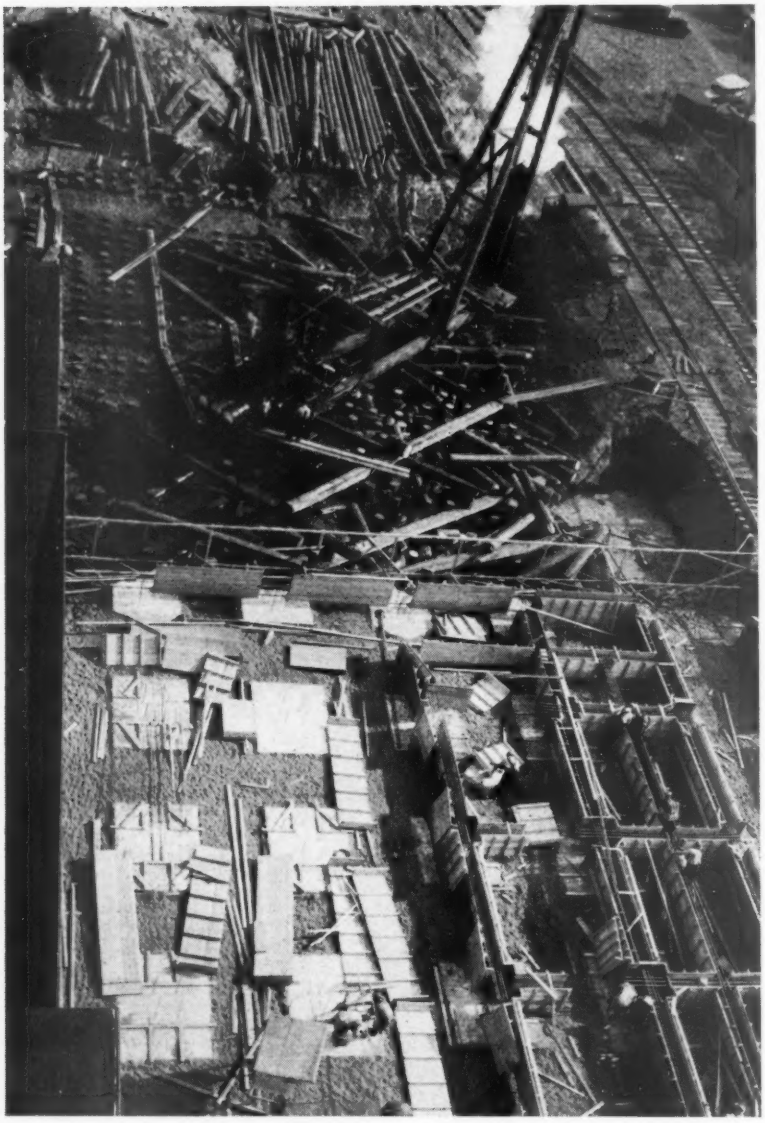
Dr. K. A. Kobe, F. L. LaQue, W. J. McJannet, Walter Morris, R. M. Mullen, William McNair, E. A. Norton, Fred Nicholson, H. James Okon, Adolf Orup, W. R. Payne, N. L. Peck, R. T. Petrie, H. H. Richmond, S. A. Ridpath, Carl Ries, Ed Riley, Albert S. Quinn.

S. A. Salmonson, B. W. Sawyer, Ferdinand Schmitz, Harlan Scott, H. W. Siebert, J. M. Shedd, L. R. Sheldahl, H. H. Spaulding, R. L. Stevens, Dr. H. V. Tartar, Earl G. Thompson, Louis A. Wendt, A. F. Winklesky, Ralph Winship, Nelson Young.

McLAURIN AWARDED FELLOWSHIP

Mr. D. J. McLaurin of Victoria, B. C., formerly chief chemist of the British Columbia Pulp & Paper Company at Woodfibre, B. C., has been awarded a scholarship at the Institute of Paper Chemistry in Appleton, Wisconsin. Mr. McLaurin left for Appleton the middle of September to begin his studies.

Upon graduating in chemical engineering from the University of British Columbia in 1932, Mr. McLaurin became associated with the B. C. Pulp & Paper Company, but during the scholastic year 1935-1936 he studied under Dr. H. K. Benson of the Department of Chemistry, University of Washington, in Seattle, while on leave of absence from the B. C. Pulp & Paper Company.



ST. REGIS WORK PROGRESSING RAPIDLY

The accompanying photographs, taken September 28th, show the speed with which the alteration and improvement work is being carried on at the Tacoma mill of the St. Regis Kraft Company.

At the right it will be noted that the crew setting up forms for the concrete foundations of the new screen room and bleach plant are crowding the pile driving crew. The concrete men are right on top of the pile drivers.

Nearly 600 men, working three shifts, are rushing the St. Regis program to early completion.

Below in the background is shown the new dock with the first ship to berth there. On Friday, September 25th, there was no planking on the dock piling. Sunday, the 27th, when the ship arrived, the planking had been merely laid on, but unloading of the ship began. When this picture was taken on the 28th, the spiking of the planks on the dock was just being completed and the unloading was almost finished.

At the left center is the framework of the new chipping plant with the log breakdown plant under way back of it. At the right is the additional hogged fuel storage bins being constructed to increase the capacity.

SPAULDING PROPOSES REORGANIZATION PLAN

Mr. Charles K. Spaulding, organizer and former president of the Spaulding Pulp & Paper Company of Newberg, Oregon, proposed in September a form of reorganization to preserve the interests of common stockholders. Mr. Spaulding's plan was presented at a meeting of the board of directors and President J. C. Compton appointed a committee consisting of Mr. B. T. McBain, chairman; Mr. O. M. Allison, and Mr. Washbond to work out a plan for reorganization which would met with the approval of both stockholders and bondholders.

At present the mill is operating under agreement with the bondholders which expires in October, 1937.

Under the management of Mr. J. B. Wilt, superintendent, the Spaulding unbleached sulphite pulp mill at Newberg is now operating at a profit and is making needed improvements in plant and equipment.

FALL TAPPI MEETING TO BE HELD NOVEMBER 6th and 7th IN PORTLAND

The regular Fall meeting of the Pacific Section of TAPPI will be a day and a half affair, and will be held November 6th and 7th at the Hotel Multnomah, Portland, Oregon.

Mr. W. R. Barber, chairman of the Pacific Section, urges everyone interested in the industry to attend. He has appointed Mr. William C. Marshall and Mr. Roy Carey as joint general chairmen, and they in turn have selected as chairmen of the sub-committees: Mrs. Kenneth B. Hall, in charge of menus and ladies' entertainment; Mr. Ray Smythe, in charge of entertainment for Friday and Saturday evenings, and Mr. H. A. Des Marais is looking after arrangements for golf and mill visits.

The Technical Program

The technical paper program is not entirely complete as this goes to press, but Mr. Carl Fahlstrom, vice-chairman of TAPPI and in charge of programs, announces the following three speakers at this time:

Dr. Harry F. Lewis, dean of the Institute of Paper Chemistry of Appleton, Wisconsin, will deliver a talk the title of which has not been announced.

Mr. J. M. Martin of the General Dyestuff Corporation will come from the East and present a paper on "Variables Affecting Dyestuff Application."

Dr. H. K. Benson, head of the Department of Chemistry, University of Washington, will talk on "Waste Sulphite Liquor As An Adhesive."

Other papers will be announced prior to the meeting.

Starts Friday

Registration will begin Friday afternoon at 1 p.m. in the lobby of the Multnomah Hotel. The afternoon is open for golf or mill visits. Friday evening an informal get-together party will be held at the hotel under the supervision of Mr. Ray Smythe.

Saturday Program

Presentation of the technical papers will begin promptly at 9 a.m. Saturday morning, following which will be a general discussion.

After the papers and the discussion a business meeting will be held for the purpose of electing officers for the coming year and to dispose of several other matters.

At noon a joint luncheon with the ladies is planned, which will be concluded in time for the football game at 2 p.m. between the University of Oregon and the University of California at Los Angeles (U.C.L.A.) Those who prefer golf to football may make arrangements with Mr. Des Marais to play.

A dinner dance is scheduled for Saturday evening at 7:30 at the Multnomah Hotel. Chairmen Marshall and Carey say that a black tie and a stiff collar are optional.

SCHEDULED TAPPI MEETINGS

Pacific Section
Dinner Meetings

January 19th.....Portland, Oregon
February 4th.....Vancouver, B. C.
March 2nd.....Olympia, Washington
April 6th..Port Angeles, Washington

Two Day Meeting
November 6th & 7th..Portland, Ore.

TAPPI MEETING CHAIRMEN

Roy S. Carey

William C. Marshall

Mrs. Kenneth B. Hall is arranging an interesting program for the ladies Friday afternoon and Saturday morning.

Make Reservations Now

Due to the popularity of the football game between Oregon and U. C. L. A., Chairmen Marshall and Carey, seconded by Mr. Earl G. Thompson, secretary-treasurer of TAPPI, strongly urge everyone who plans to attend the meeting to make their reservations immediately, for both the football game and hotel rooms.

The TAPPI block of tickets cannot be held intact after October 19th. All reservations should be mailed to Mr. William C. Marshall, 3954 East Burnside, Portland, Oregon.

TAPPI Officers

Mr. W. R. Barber is chairman of the Pacific Section of TAPPI; Mr. Carl Fahlstrom is vice-chairman; Mr. Earl G. Thompson is secretary-treasurer, and Mr. Myron W. Black and Mr. Andreas Christensen are members of the executive committee.

IDAHO TO HAVE TAPPI RESEARCH GRANT

The Technical Association of the Pulp & Paper Industry through its fundamental research committee has allotted a fund of $600 to Dr. Edwin C. Jahn of the wood conversion department, School of Forestry, University of Idaho, for graduate work in gelatinization of cellulose and wood.

The research worker has not yet been chosen by Dr. Jahn, but will be selected shortly.

The work represents a continuation of that performed under Dr. Jahn's direction a year ago by Mr. Joseph L. McCarthy, working under a Potlatch Forests fellowship. Mr. McCarthy's work was presented in the form of a paper at the joint meeting of the Pacific Coast Section of TAPPI and the Pacific Coast Division of the American Pulp & Paper Mill Superintendents Association, held at Longview, Washington, June 5th and 6th of this year. The title of his paper, which was published in the June number of this journal, was "Measurement of Gelatinization of Wood and Pulp by Water Retention Under Pressure." Dr. Jahn and Mr. Carthy were the joint authors.

As a result of his work under Dr. Jahn Mr. McCarthy obtained a graduate research fellowship this year at McGill University in Montreal where he is now working under Dr. Harold Hibbert, the well-known cellulose and lignin chemist.

Other research work carried on under Dr. Jahn's direction includes studies in the plasticization of wood.

LOWE NEW PRESIDENT OF PARAFFINE

The Paraffine Companies, Inc., have elected as their new president W. H. Lowe, who has been with the company for 32 years and who has served as vice-president and general manager for a number of years. He succeeds R. S. Shainwald, who has been with Paraffine for 44 years and president for the past eight years. Mr. Shainwald was appointed to the chairmanship of the board of directors and it is announced he will remain active in the management of the firm.

Paraffine is a large manufacturer of linoleums, asphalt base floor coverings, Pabco roofings, paints and building products. They are one of the largest exporters out of San Francisco.

B. C. PULP INTERESTED IN BY-PRODUCTS

As soon as conditions warrant—and present indications are that the time is not far off—British Columbia Pulp & Paper Company, with plants at Woodfibre and Port Alice, B. C., will enter the by-products field, Lawrence Killam, president of the company, announces.

At present B. C. Pulp concentrates on production of pulp, which is shipped to the Orient and to various markets in United States and Canada.

"The outlook for pulp is steadily expanding in British Columbia," said Mr. Killam. "In Washington state several mills have gained a strong foothold in various by-products lines, and there is no reason in the world why British Columbia should not get into the same branch of the industry. Our mills are favored with comparatively low production costs, tidewater location and cheap water haul, and and abundance of raw material. Personally, I would be willing to spend $3,000,00 in British Columbia if I could get it."

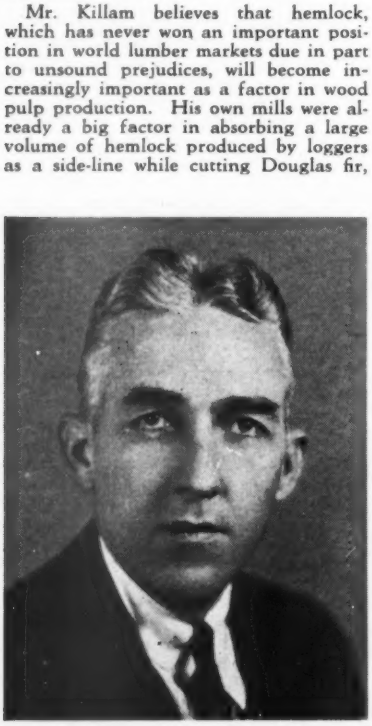
Mr. Killam said that in one way ar another his own company would probably spend $400,000 in capital expenditure this year, although increasing of the mills' capacity was not at present contemplated. B. C. Pulp & Paper Company, he said, was in a good position to divert its interest to by-products as soon as conditions warranted. He referred to the rapid growth of by-products industries in Washington state, pointing out that three mills now manufactured rayon pulp. Chemists were making progress all the time in development of new processes for the use of woodpulp commercially, and these would ultimately be utilized on this coast where basic conditions governing development of pulp industries were exceptionally favorable.

Mr. Killam believes that hemlock, which has never won an important position in world lumber markets due in part to unsound prejudices, will become increasingly important as a factor in wood pulp production. His own mills were already a big factor in absorbing a large volume of hemlock produced by loggers as a side-line while cutting Douglas fir, cedar and other timber more readily saleable as lumber.

At Port Alice the company has already started the installation of hog-fuel conveyor system at cost of about $50,000. A system for pre-heating air for the boilers is also being installed at the same plant, at a cost of $30,000.

Hog fuel for the plant is being supplied by Vancouver Island mills, which are spending $30,000 for additional equipment to facilitate production of this material. B. C. Pulp has purchased four hulks to use as barges in the transport of this fuel to its two mills.

The company recently completed, at a cost of approximately $200,000 the installation of chemipulp units at both Woodfibre and Port Alice. This appropriation covers the cost of building acid accumulator buildings and installation of automatic gas relief control. Steam flow meters have been installed on the digesters at the Port Alice mill, similar to those already in use at Woodfibre.



HAROLD S. FOLEY
Newly elected Executive Vice-President of the Powell River Company

LEDGER POINTS VALUE OF PULP INDUSTRY

In a series of three articles the Tacoma, Washington, Ledger says in part:

"Foreign countries have succeeded in establishing economic conservation and proper utilization of the forest growth of the soil much more than we have, solely because of the advantage that lies in an expanded pulp and paper industry for this consumption, which they have enlarged primarily at the expense of the American user who today purchases the following tonnage abroad:

1—3,000,000 tons of newsprint.
2—2,000,000 tons of chemical wood pulp.
3—1,000,000 cords of pulp wood.
4—300,000 tons of paper of various kinds.

"The above tonnage represents approximately 5,000,000,000 feet of wood stumpage thus imported from foreign soil to the detriment of proper utilization, economic conservation and reforestation in the United States. In other words the expansion in use of these products has been almost totally supplied by the foreigners, and instead of keeping our production abreast of our own consumption we have permitted the foreigners to build up proper and profitable use of their forest lands to the extent of 5,000,000,000 feet of the total of 6,500,000,000 feet that we have increased the use of these products since 1911.

Largest Single Import

"To visualize the importance of this enormous industry for American economic benefits, it should be noted that the above imports first represent the largest single item of import of a class of goods into the United States, equalling in 1935 approximately $170,000,000 sent abroad to the detriment of American employment, and a further deterrent to the proper utilization of our own enormous forest resources.

"In addition to the $170,000,000 paid for these imports, American Railway and Steamship lines lost approximately $35,000,000 in transportation earnings since virtually 100 per cent of the goods moved into our Great Lakes and Atlantic and Pacific seaboards in foreign ships.

"Projected total consumption in the United States of the above forest products is 19,500,000 tons in 1940 and 23,000,000 tons in 1950. Based on what might be considered a normal consumption of lumber, it is predicted that in 1940 the wood that could be consumed in America for our own total requirement of these cellulose products will exceed that of the total consumption of lumber. Thus we have an industry which, parallel with our diminishing general use of lumber, could have readily absorbed this loss in per capita consumption of lumber to the benefit of our economic self-efficiency and most important, the placing of our forest operation on a more economically sustained yield basis, to say nothing of the elimination of the enormous wastage now taking place.

"It is considered doubtful if there exists in any country a glaring example of the failure to take advantage of an industrial opportunity, such as the picture represents."

SWEDISH MILLS EXPAND

Pulp mills in Sweden continue to expand production and to improve their mills. The following news is from the Swedish Timber and Wood Pulp Journal.

Kopparberg & Hofors Sagverks A.-B. has decided to enlarge the bleaching department of the Norrsundet sulphate mill. The present bleaching plant was built in 1932 to handle about half the annual output of the mill, or 20,000 tons per annun; the extension now decided upon will allow the whole output, or 40,000 tons per annum, to be bleached.

This extension does not mean that the capacity of the sulphate mill is increased, nor that the whole output will actually be bleached, but is only intended to make it possible to bleach as much of the production as the market may require or the situation justify.

The plant is expected to be ready in the course of 1937.

Marma-Langrors A.-B. has resolved to install two new digesters and six diffusers in the Marmaverken sulphate mill. The larger number of digesters is installed for the purpose of improving the quality, and the diffusers in order to render harmless the exhaust liquor emptied into the lake Marmen. The present output, 70,000 tons per annum, will not be increased by this extension.

Sulfitaktiebolaget Ljusnan is at present installing a Steinmuller boiler of 800 sq. met. heating surface and a working pressure of 42 kg. in the sulphite mill at Wallvik. A De Laval steam turbine generator 6,250 kVa is being put in at the same time. When this power installation is completed, the whole sawmill of Marma Sagverks A.-B. at Marmaverken will be electrified, which is expected to be done by the New Year 1937.

Company for the exploitation of sulphur recovery method. In association with the large British chemical trust, Imperial Chemicals, Bolidens Gruvaktiebolag has formed a company called Sulphur Patents, Ltd., for the exploitation of the methods worked out by both companies for recovering sulphur and liquid sulphurous oxide from the sulphur gases developed in the roasting and smelting of sulphite ores. The formation of this company is expected to result in a considerable increase in the output of sulphur and liquid sulphurous oxide. For the last two years Boliden has been producing sulphure at the Ronnskar works, and this sulphur has been tried with favorable results in continuouus working processes at a couple of our largest sulphite mills.

LEBANON CHANGES, IMPROVEMENTS

The Lebanon, Oregon sulphite pulp and paper mill of the Crown Willamette Paper Company is operating steadily and in common with the other plants of the Crown Willamette organization numerous improvements have been made within the past two years.

Of special interest is the recent installation of equipment for the manufacture of decorated sulphite wrapping paper. The system employed is that invented by Mr. W. E. Braun of the Pejepscot Paper Company of Brunswick, Maine. Mr. Braun visited Lebanon this past spring to supervise the installation of the necessary equipment.

Any design desired may be printed on the sheet and the operation is performed while the machine is 70 per cent water. When the decorated wrapping paper is not being run on the machine the printing rolls are removed. Included in the equipment is a stereotype outfit for producing the designs.

A new warehouse was constructed this year at the Lebanon mill and a new office built into one end of the warehouse.

Another recent improvement is a settling basin with a capacity of a million and a half gallons of water. Four obsolete water wheels have been replaced by two modern wheels capable of producing considerably more horsepoper than the old wheels.

The present 25,000 gallon water tank and tower, used for fire protection, will be replaced by a 75,000 steel tank and tower. The new tank, which is expected late in November, will be 100 feet above ground.

The wood supply of the Lebanon plant is almost wholly white fir, secured in part from ranchers and from lumber companies operating in the vicinity. A portion of the supply is obtained in log form and a part in the shape of split cordwood.

The Lebanon crew is proud of the mill's steady operating record. Mr. Dan E. Dupuis is general superintendent; Mr. B. E. Sullivan is sulphite superintendent; Mr. R. D. Waddell is technical supervisor in charge of technical control work; Mr. H. C. Olds is office manager and chief accountant; Mr. J. O. Morris is steam and electrical engineer; Mr. E. C. Leckband is master mechanic; Mr. R. Weeks is finishing room and shipping foreman, and Mr. H. C. Croner is yard and cut-up plant superintendent.

DAN E. DUPUIS
General Superintendent
Crown Willamette Paper Co.,
Lebanon, Oregon

Sullivan New Sulphite Superintendent

Mr. B. E. Sullivan is the new sulphite superintendent at Lebanon. He assumed his duties in September replacing Mr. Thomas H. Grant, who became sulphite superintendent for the Columbia River Paper Mills at Vancouver, Washington.

Mr. Sullivan was night superintendent for the Rainier Pulp & Paper Company at Shelton, Washington. He had been with the Rainier organization since the mill started in 1927, performing various duties in the operating end and progressing to the position of night superintendent.

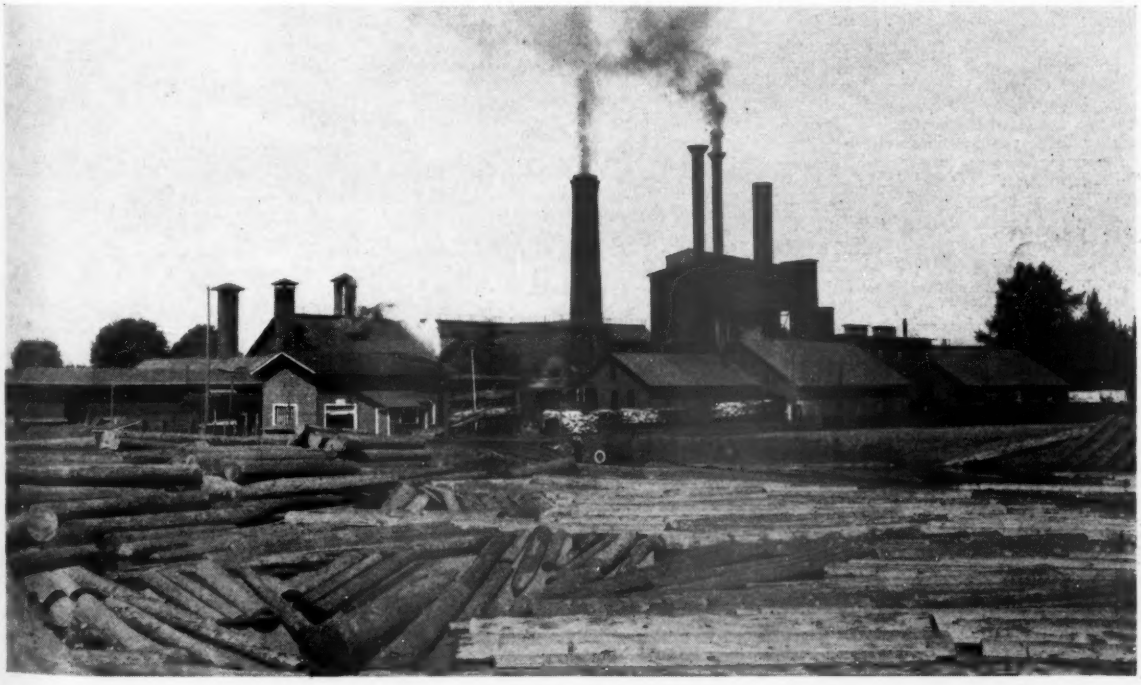
JOHN FERNSTROM VISITS POMONA

Mr. John Fernstrom, brother of Mr. F. O. Fernstrom of the California Fruit Wrapping Mills, and of Mr. Eric Fernstrom, who recently returned to Sweden, is still visiting at Pomona, studying the Pacific Coast industry.

Mr. Fernstrom has been visiting various mills on the Coast, and will make other contacts here before returning to Sweden about the end of November. He may tour the Pacific Northwest if time permits, but so far such plans are not certain.

FRAMPTON UNDERGOES OPERATION

Charles Frampton, superintendent of the California Fruit Wrapping Mills, was operated on Oct. 1 at Pomona. He was expected to be away from the plant for several weeks, although doing nicely at last reports.



A recent picture of the Lebanon, Oregon, sulphite pulp and paper mill of the Crown Willamette Paper Company

PULP IMPORTS UP 29.4% IN FIRST SEVEN MONTHS

Imports of wood pulp continue at a level far above that of 1935. Imports of chemical pulp for the first seven months of 1936 totalled 1,115,646 short tons compared with 862,646 short tons in the first seven months of 1935. The monthly average was 36,143 tons more than the average per month for the same period of 1935.

Groundwood imports for the first seven months of this year reached 116,119 short tons compared with 90,084 for the same period in 1935. Monthly average was 26,115 tons greater than in 1935.

The percentage increase in chemical imports for the first seven months of 1936 over the identical period of 1935 was 29.4 per cent. For groundwood it was 28.8 per cent.

It will be recalled that imports of wood pulp, both chemical and mechanical for the entire year 1935 was 7 per cent greater than the imports during 1934. The total tonnage increase in 1935 imports over 1934 was 127,515 short tons.

While imports of chemical wood pulp for the month of July, 1936, declined from the record imports of June they were 50,166 tons greater than the chemical pulp imports during July, 1935, or 37 per cent greater. July, 1936, chemical pulp imports totalled 185,218 short tons valued at $7,039,547, while July, 1935, imports totalled 135,112 short tons valued at $5,179,470. June, 1936, chemical pulp imports were 209,965 short tons valued at $7,892,774.

In the first seven months of this year wood pulp imports both chemical and groundwood have passed the million ton mark with 1,231,845 tons compared with total imports during 1935 of 1,933,631 short tons.

Seven months imports of wood pulp, all grades, in 1936 have reached 64 per cent of the total for the entire year 1935.

If the monthly averages hold up for the remaining five months of 1936 this year will attain an all time record for the importation of wood pulp.

RAINIER LABORATORY PUBLICIZED

The new research laboratory of the Rainier Pulp & Paper Company at Shelton, Washington, has been publicized throughout the world through the illustrated article which appeared in the May 1936 number of this journal.

In addition to "Pacific Pulp & Paper Industry's" own circulation, which extends throughout this continent and into all pulp and paper making countries, the article was translated into Japanese and republished in Japan.

The textile industry has just lately been acquainted with Rainier's extensive research work through the reprinting of the article originating with this journal in the September number of the Rayon Textile Monthly.

This latter journal states that, "* * * the Rainier Pulp & Paper Company now constitutes the world's largest producer of wood pulp for the rayon industry."

HAWLEY INSTALLING ACCUMULATOR

A digester type acid accumulator is being installed by the Hawley Pulp & Paper Company of Oregon City in connection with their Chemipulp system. The accumulator will free one of the digesters which has been employed as an accumulator.

SIDNEY ROOFING MAKING PROGRESS

Sidney Roofing & Paper Company of Victoria, B. C. has been sharing in the increased business brought about by resumption of construction activity throughout Western Canada. The company, headed by Mr. Robert W. Mayhew, is the largest manufacturer of roofing and building papers in Canada west of Toronto and has been building up an extensive business in supplying raw material for the manufacture of paper boxes. The company has a large holding in the National Box Company of Vancouver.

Figures have been given out showing that in the last fiscal year Sidney Roofing & Paper Company experienced an improvement of $34,540 in net working capital, which was brought up to $149,652. During the year an addition of $5,324 was made to the profit and loss surplus, bringing the favorable balance of $85,872.

The company now has no funded debt. Paid up capital consists of $350,000 in 7 per cent preferred shares, $100 par, and $10,000 in common shares, par $10. The statement shows a reserve of $13,378 for redemption of preferred shares. The sinking fund provision calls for an annual appropriation of 10 per cent of net earnings available for dividends on common stock after allowing for depreciation, income taxes and dividends on preferred stock.

The preferred shares are callable at option of the company at $110 plus accrued dividends on not less than 60 days' notice..

During the past year there was an increase of $6,500 in the company's interest in National Paper Box Company, bringing it up to $49,282.

Directors of Sidney Roofing & Paper Company, besides Mr. Mayhew, are Mr. J. W. Spencer, Mr. Joshua Rowland Kingham, Dr. Albert Tanner and Mr. E. W. McMullen.

SAFETY PROGRAM SUCCESSFUL

During 1935 the Crown Zellerbach Corporation, the Grays Harbor Pulp & Paper Company, Olympic Forest Products Company and Rainier Pulp & Paper Company reorganized their accident prevention work on a broad basis. The plan included the full time service of a General Safety Supervisor and the designation of a safety supervisor in each of the mills. The safety supervision work has been closely related to the employment and personnel supervision, and in most cases one man fills the position of Personnel and Safety Supervisor.

Organization within each mill has been made substantially uniform and provides for a thorough analysis of every accident by a Workers Safety Committee, a Supervisors Safety Committee, and a small committee of the management. Not only is the attempt made to determine the cause and responsibility for every accident, but also take every necessary step to prevent a recurrence of any similar accident.

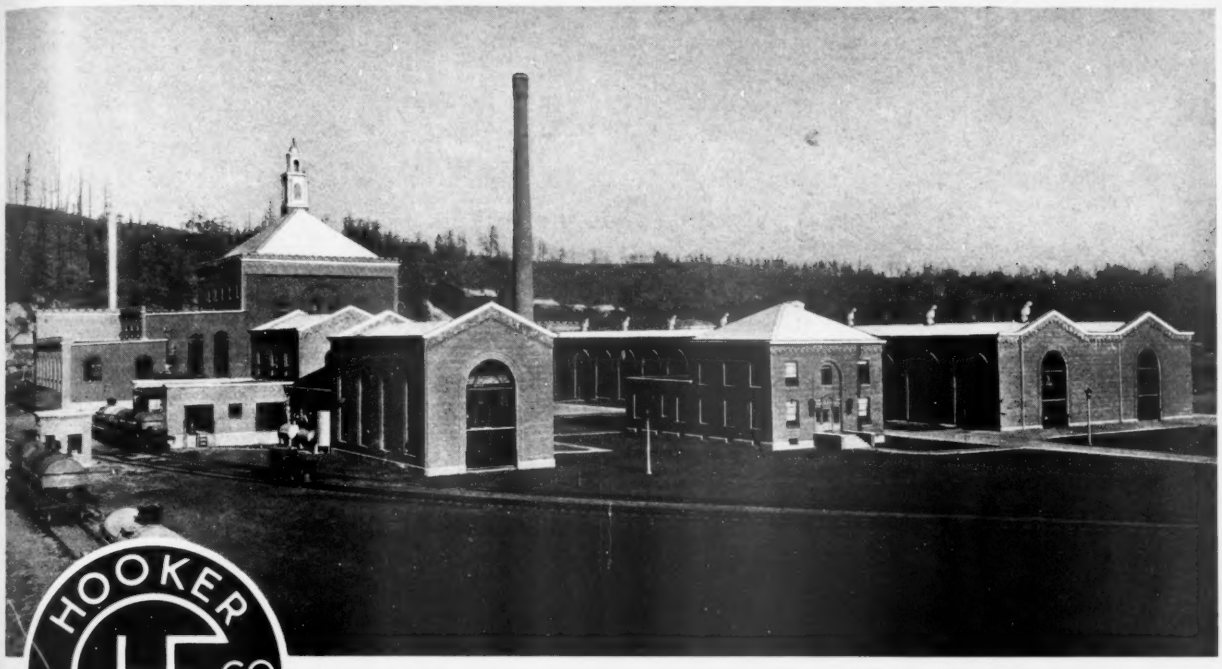
The Safety Supervisors from the several mills are brought together for conferences from time to time. The subjects discussed include the safety supervision program, safe practices, safety devices, medical aid provision, and requirements of the state departments concerned.

The experience for the first complete year showed substantial progress, with particular improvement toward the end of that year.

The first quarter of the second year showed a reduction of 20 per cent in the frequency of accidents compared with the first year under the program.

A gratifying improvement in the amount of lost time has also been achieved in several of the mills. Four of the mills concerned show a "severity rating" lower than the national average for the industry. In this phase of the work, efforts are being made to guarantee immediate and effective treatment to every industrial injury, as well as careful and constant "follow-up" to see that every possible care is given the injured man. The program for prompt attention includes intensive education of supervisors and employees through classes in accident prevention and first aid work, generally using the standard Red Cross instruction method. In several mills every foreman and supervisor has completed the formal course in first aid training.

M. L. MAMMEN
Crown Zellerbach Safety Supervisor



HOOKER ELECTROCHEMICAL CO

CAUSTIC SODA
LIQUID CHLORINE
FOR THE NORTHWEST

Appreciating the diversified uses of Caustic Soda and Liquid Chlorine, the Hooker Company offers the technical services of an experienced engineering staff. Mills in the east and south as well as the west have used Hooker service to help solve their operating problems. At Tacoma, Washington, are maintained plant, laboratories, field staff and administrative personnel to serve west coast industries.

WESTERN PLANT, Tacoma, Washington
Western Sales Office, Tacoma, Washington

EASTERN PLANT, Niagara Falls, N. Y.
Eastern Sales Office, 60 East 42nd St., New York

HOOKER ELECTROCHEMICAL COMPANY

MURIATIC ACID · BLEACHING POWDER · MONOCHLORBENZENE · PARADICHLORBENZENE
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SULFUR MONOCHLORIDE · SULFUR DICHLORIDE · SULFURYL CHLORIDE · SALT
FERRIC CHLORIDE · ANTIMONY CHLORIDE

5503 A

NEW TAYLOR PLANT PROVIDES IMPROVED INSTRUMENT SERVICE

OF interest and importance to the pulp and paper industry on the Pacific Coast is the recent completion of the Taylor Instrument Companies' new service and manufacturing plant at 145 Mission Street, San Francisco, California. Now in operation, this new service center is prepared to serve pulp and paper mills through the prompt, expert repairing of used instruments and the complete assembling of new instruments, under the direction of Mr. George H. Linsley, Jr., Pacific Coast manager.

From the well lighted, fully equipped factory department on the first floor, to the five-foot thermometer on the front cornice, which shows the temperature to every passerby, the new Taylor plant is said to be the largest, most complete and best equipped instrument repair and assembly plant in the West. The machinery and equipment closely parallels that in the Taylor factories in Rochester, New York.

The building, which was occupied by the company late in the summer, was constructed to meet their requirements. It has a total of 10,000 square feet of floor space on three different levels which are connected by a freight elevator. The elevator entrance faces Mission Street facilitating the handling of freight. The structure itself is of steel framework with concrete walls and foundation and was designed to be free of vibration.

The first floor provides 1600 feet of factory space. Here is located filling apparatus capable of filling vapor, mercury or gas actuated tube systems in recording thermometers and controllers, the installation being declared one of the finest in the country. All tube systems are exhausted to extremely high vacuum, and then are filled with the proper medium to precision amounts. Also found here are power grinders, polishing wheels, lathes, a lacquering booth, an automatic gas-fired boiler, and the heavy-parts storage. Large windows provide plenty of ventilation and natural light.

The north end of the second floor houses the general offices, and also the headquarters of Mr. George H. Linsley, Jr., Pacific Coast manager. South of this space are the small parts storage and the repairing and testing facilities. The latter department is lighted and ventilated both by windows and by skylights. In it is installed equipment for testing instruments ranging from minus 20 to plus 2,500 degrees F. in temperature and from 1/10th inch mercury absolute to 5000 pounds in pressure. These include the following:

Equipment

Three water baths, all automatically controlled, and mechanically agitated by means of direct motor-driven agitators made especially for Taylor. Used for testing and calibrating instruments from 40 to 212 degrees F.

Steam pressure chest, for testing and calibrating under operating conditions from 212 to 300 degrees F. This equipment also is automatically controlled, and can be used for tests under pressure to 125 pounds.

Oil bath, automatically controlled, electrically heated, mechanically agitated, for testing and calibrating at temperatures from 150 to 500 degrees F.

Alcohol bath, mechanically agitated, automatically controlled, chilled by a mechanical refrigeration unit. Used for testing and calibrating at temperatures from minus 20 to plus 40 degrees F.

Equipment for vacuum and pressure gauge and controller testing, also for flow controllers and recorders. Includes a system of vacuum and pressure pumps, using a mercurial barometer, mercurial absolute pressure gauge and mercurial vacuum gauge. Can calibrate instruments from 1/10th inch absolute pressure up to 5000 pounds.

Conventional dead-weight tester with capacity of 5000 pounds per square inch.

Full equipment for pyrometer testing.

Individual work benches are provided for the men, each made with a combination Oregon fir and maple top mounted on a solid metal frame, and each provided with individual gas, compressed air and electrical connections. This department has a maple floor, and a 21-foot ceiling. Adjacent to it is the small parts room, lined with drawers in which are stored parts for practically every possible need, plus a perpetual visible inventory. Also on this level is an assembled instrument storage, in which are kept temperature devices of standard types which can be made up in advance. Much of the equipment, however, is put together to fit the specific needs of individual customers.

Special Manufacturing

While general manufacturing on a factory scale is not contemplated at the present time, considerable manufacturing and assembly work will be done on new instruments such as recording thermometers, temperature and pressure controllers, diaphragm valves and industrial thermometers. This work will include recording and controlling instruments as used on digesters, paper machines and other pulp and paper mill equipment and processes.

"It is our intention," says Mr. George H. Linsley, Jr., Pacific Coast manager, "to utilize our manufacturing facilities to the greatest possible extent to insure prompt and efficient service to our customers in the pulp and paper industry."

Intended primarily for repair and service work the Taylor Instrument Companies' San Francisco plant will materially benefit customers throughout the West. From two to three weeks time will be saved which was formerly required to ship instruments to Rochester for repairing. Transportation costs will likewise be reduced.

Carry Large Stock

A large stock of thermometers, valves, controllers, gauges and parts are carried in the new San Francisco plant especially to fit standardized applications. Many special instruments can be quickly assembled for the special requirements of the pulp and paper industry.

Taylor Specializes in Pulp and Paper

The Taylor Instrument Companies specialize in instruments for the pulp and paper industry. Mr. Clayton D. De Mers is in charge of sales and development of instrument applications for the pulp and paper industry with headquarters in Rochester, New York.

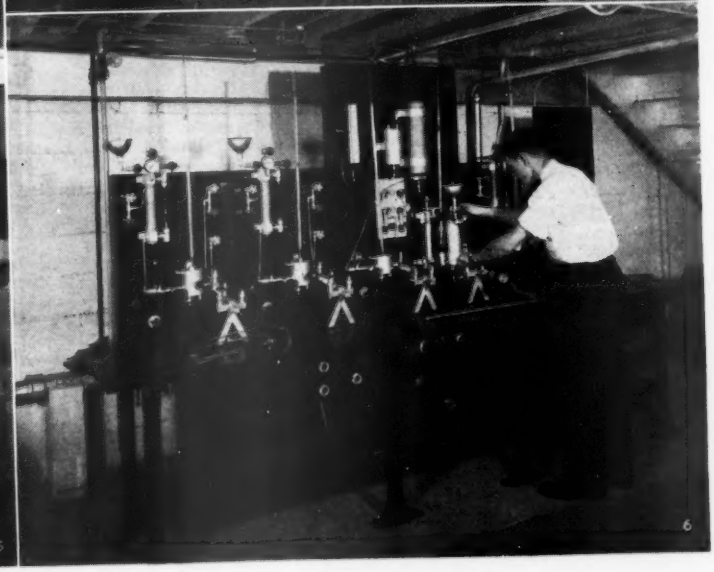
Continued on page 22

THE NEW TAYLOR SERVICE AND MANUFACTURING PLANT IS COMPLETELY EQUIPPED

In No. 1 on the opposite page is shown the exterior of the new building at 145 Mission Street, San Francisco. No. 2, interior of the general offices on the second floor. No. 3, high temperature testing and calibrating equipment with the steam chest and oil bath.

No. 4, a general view of the shop on the main floor. In the center on the left hand wall, is the packing press for assembling mercury in glass industrial thermometers. In front of the window is the vacuum and pressure test bench, for pressure gauges, flow controllers, vacuum gauges, etc. No. 5 is a view of the water baths. No. 6 shows the filling columns for filling the systems for recording thermometers and temperature controllers.

At the left, Mr. L. H. Wear, Northwest representative, and at the right, Mr. George H. Linsley, Jr., Pacific Coast Manager of the Taylor Instrument Companies, snapped at the joint meeting of TAPPI and the Superintendents Association June 5th and 6th in Longview.



In the Pacific Northwest Mr. L. H. Wear handles the sales and service work for the pulp and paper industry. Mr. Wear's headquarters are at 533 Terminal Sales Building, Portland, Oregon.

The Taylor instruments employed by this industry are many and include a number of specially developed instruments such as pulp grinder controls, digester controls, press roll load recorders, beater load recorders, Even-Action Motosteel diaphragm valves, flow controllers, temperature controllers, pressure controllers and paper machine dryer temperature controllers.

The third floor of the new Taylor building provides rooms for the company sales engineers, who service customers in the eleven western states and Hawaii, plus a conference room.

In addition to Mr. George H. Linsley, Jr., Pacific Coast manager, the San Francisco plant is headquarters for Mr. Herbert Roemer and Mr. James Philpot, sales engineers. Mr. Alvin Fink, who recently came West from the main factory at Rochester is in charge of the factory and is assisted by several factory trained engineers.

Sales engineers Mr. H. C. Cathings and Mr. Harry Prowell service Southern California customers from their headquarters in Los Angeles.

NORWEGIAN PULP AND PAPER PRODUCTION HIGHER

Conditions in the Norwegian pulp and pare industry changed little during the second quarter. General developments in the field of mechanical and chemical pulp were favorable while conditions in the paper trade were not as good as in the previous three months. Actual statistics are not available covering the production of mechanical pulp in Norway. It is estimated however that the improvement in market conditions has been reflected in an increase in output compared with the second quarter of last year.

Exports of mechanical pulp were reporter 2 per cent higher than during the June quarter of 1935. Although the market turned dull toward the end of May, prices were maintained at approximately the same level owing perhaps to the small quantity available for 1936 delivery. Considerable interest was reported in 1937 contracts, and a number of sales were transacted for 1937 delivery at around 44 shillings per ton.

Production of sulphite pulp, the only class for which statistics are available, totaled 89,600 metric tons (metric ton—2,204.6 pounds) for sales during the second quarter, a gain of approximately 9 per cent over the total for the corresponding period last year. The output of sulphate pulp during the second quarter of 1936 is reported to have been somewhat lower. Exports of chemical pulp also increased compared with the succeeding three months and the corresponding period in 1935. Shipments totaled 82,105 tons, a rise of 22 per cent compared with the total of 67,542 tons during the corresponding period last year. The American demand was again good and the United States took first place having dropped to second during recent months. The new S.P.S. export quota plan was put into effect. Prices rose slightly higher during the second quarter, quotations for bleached sulphite for prompt delivery rising from 210 crowns per ton net f.o.b. in March to 215 crowns in June. Both prompt and 1937 deliveries of unbleached sulphite were quoted at £7/10 to £7/15 c.i.f. North European ports. Quotations for easy bleaching on the same basis were £ 8/10 to £ 8/15.

Newsprint production continued to increase, amounting to 93,093 metric tons for the first 6 months of the current year. Prices were reported to have improved on the South American market, but elsewhere were unchanged. It is reported that Canadian mills had raised prices on the South American market for 1937 deliveries and it is expected that Norwegian prices will be increased accordingly. Business for 1937 in American contracts was accepted subject to the expected raise in Canadian quotations. Exports of newsprint, somewhat higher than in the second quarter last year, had declined slightly as compared with the previous three months. Sales of kraft and greaseproof paper continued satisfactory, but market conditions for fine sulphite, tissue and M. G. Cap were distinctively less favorable, with smaller sales and lower price quotations.—(Vice Consul Walter C. Dowling, Oslo).

SWEDISH WOOD PULP MARKET BRISK DURING FIRST HALF OF YEAR

At the beginning of June, stocks at both sulphite and sulphate mills were reported as about 100,000 tons below those at the same time in 1935, and the market situation in general for chemical pulp is characterized as very firm. Toward the end of the quarter it is estimated that not more than 5 per cent of the 1936 supply of sulphite pulp remained unsold rendering the statistical position unusually favorable to sellers. Sales for 1937 of both sulphite and sulphate pulp, moreover, were estimated to have reached a total figure in the neighborhood of 1,200,000 metric tons which approaches 50 per cent of the calculated output for 1937, and is very high for this time of year. Some interest has been shown in 1938 deliveries but contracts concluded so far ahead have been small. At the end of the quarter there were indications that the usual summer slackness was setting in with the likelihood there would be little activity in this market before September. The market for sulphate pulp has been particularly strong. Not only is the 1936 production practically sold but only limited amounts of 1937 production are still available. The world consumption of this variety seems to be expanding rapidly and a program of new mill construction is planned in a number of producing countries.

Practically all of the 1936 production of mechanical pulp has been sold and by the end of June about half of the estimated 1937 output of wet mechanical pulp had been placed. Dry mechanical pulp has been in fairly good demand with prices stiffening. Prices on wet mechanical pulp showed little or no change during the period and a reluctance has been noted on the part of sellers to interest themselves in the unsatisfactory offers received. Very few sales were reported during the latter part of the quarter for this apparent reason. Stocks of mechanical pulp at the end of June were also a great deal lower than at the corresponding time in 1935.

The removal of the sanctions against Italy is looked upon as of considerable interest to the Swedish wood pulp industry. While rayon pulp has been exported to Italy for cash payments outside the clearing agreement the normal development of the trade between the two countries has naturally been retarded.

SWEDISH PAPER MILLS WELL SUPPLIED WITH ORDERS

The statistical position for the Swedish news print production continued excellent. Practically all the 1936 production has been sold and only small orders are now on hand for the balance of the year. Unfortunately, prices are regarded as very low in comparison to production costs and attention is closely directed toward the development of the Canadian industry and the consumption in the United States. It is anticipated, based upon production figures to date, that the Canadian output will exceed the 1929 record. The intention of the French government to reduce imports of newsprint for 1937 by 22,000 metric tons is looked upon with some misgivings. Reluctance has been shown by mills to close contracts for 1937, while awaiting developments on the American market. Although a few contracts have been signed for 1937 deliveries at normal prices, both buyers and sellers seem to prefer not to bind themselves.

Sales of kraft paper have been proceeding at the normal rate and the market here is very firm with the mills well supplied with orders. As a matter of fact, mills are reported to be experiencing some difficulty in filling orders in time since most of them have orders sufficient to insure operations for several months ahead. The Scankraft Association held a meeting in Helsingfors early in July at which time it was decided to increase prices for certain markets in view of the prices of raw materials. A desirable reduction of output for the kraft mills was decided upon effective to October 1. Negotiations which have been proceeding for some time past between Scankraft and the British kraft paper manufacturers on one side and the British paper merchants and bag makers on the other, have finally resulted in an agreement.

Orders for sulphite wrappings have been coming in normally at increased prices and mills are well booked up for the next few months. Although the position of this variety is perhaps not as good as sulphate paper, it continues satisfactory. Greaseproof sales have picked up in recent weeks and some improvement in the market seems to have developed. Prices were increased by 10 shillings per ton early in the quarter. (Commercial Attache Charles E. Dickerson, Jr., Stockholm.)

"SCANKRAFT" RAISES PRICE FOR CERTAIN MARKETS ON KRAFT PAPER

At a general meeting of "Scankraft," the association of Swedish, Norwegian and Finnish kraft paper mills, which was held on July 2, 1936, in Helsingfors, it was decided to increase the kraft prices in the following markets:

United States: by 10 cents per 100 pounds for ordinary unglazed kraft paper, and for bag paper;

Holland, Belgium and France: by 10 shillings per metric ton for bag paper, and for ordinary M. G. and unglazed kraft paper;

Denmark: by 10 Danish crowns per metric tons for bag paper.

These increases were decided upon in consideration of the continued increases in prices of pulp, wood and other raw materials. (Commercial Attache Charles E. Dickerson, Jr., Stockholm).

GOVERNMENT SUBSIDIES PROPOSED FOR FRENCH PULPWOOD

The French commission for customs and commercial conventions recently submitted to the Chamber of Deputies a draft law for the constitution of a credit of 10 million francs on the budget of the Ministry of Agriculture for utilization of local timber for paper making. With this credit subsidies would be granted to encourage the utilization of French timber and would be granted under the conditions provided for in the cellulose convention. (Assistant Trade Commissioner Earle C. Taylor, Paris).

JAPANESE MANUFACTURERS OF TRANSPARENT CELLULOSE SHEETING ORGANIZE GUILD

Eight Japanese firms manufacturing transparent cellulose sheeting have organized a producers guild with a view to control quality, output, and prices of transparent sheeting manufactured in Japan, both for the domestic market and for export. Three other firms with an output of about 6,500 reams of transparent sheeting per month refused to join the organization.

The guild aims to establish a wholesale price for all transparent sheeting that has passed guild inspection. Improvement of quality will also be sought. Prices announced by the guild will be subject to revision as the occasion warrants. The output will be curtailed to meet domestic and foreign requirements. Production for August is limited to 16,000 reams of 52 per cent of productive capacity; output in subsequent months will be adjusted according to market developments. The guild will make sales to 19 approved sales agents handling domestic and export trade. Exports of transparent cellulose sheeting from Japan during the first half of 1936 reached a total of 2,638,152 pounds, valued at 1,325,793 yen, as against exports during the first half of 1935 amounting to 1,756,920 pounds.

JAPANESE EXPORTS OF TRANSPARENT CELLULOSE SHEETING DURING 1935

Detailed statistics covering the 1935 exports of transparent sheeting are now available and reveal that shipments were made to 69 separate and distinct markets. Total exports for the year amounted to 4,175,160 pounds valued at 1,862,352 yen. Asiatic markets took 47 per cent by volume of the 1935 exports, European countries 13 per cent, United States 10 per cent, Latin American 6 per cent, Australia 14 per cent, New Zealand 4 per cent, and African countries 1 per cent. No separate figures covering exports prior to 1935 are available. (Assistant Trade Commissioner Carl H. Boehringer, Tokyo).

WATERMARK TO BE REQUIRED FOR DUTY-FREE ENTRY INTO ARGENTINA OF PAPER FOR SPECIFIED PRINTING USES

An Argentine executive decree published August 22, 1936, and to become effective 180 days thereafter, provides that paper, imported duty-free, for use exclusively for the printing of newspapers, periodicals, books or magazines of literary, scientific or general information, must bear clear marks, known as watermarks or filigrane, according to a recent report from Vice Consul Hayward G. Hill, Buenos Aires. These watermarks must be in the form of straight parallel lines, spaced 4 centimeters apart, within an allowable variation of ½ centimeter.

The decree prohibits the importation of paper bearing the described watermarks, except when the paper is for the above specified purposes only, and prohibits the manufacture, in the country, of paper bearing the watermark in question.

The decree further annuls the requirements for the duty-free entry of newsprint as provided for by a decree of July 18, 1935. For the duty-free entry of newsprint, the decree of July 18, 1935, provided that newsprint must have a specified proportion of chemical and mechanical pulp as well as having a specified weight per square meter.

GERMAN WOOD PULP STOCKS LESS THAN NORMAL

Stocks of wood pulp on hand in Germany are reported to be less than normal. Recent demands for pulp in Germany have been exceptionally heavy in order to supply the large paper requirements for the publication of Government and party documents, newspapers, pamphlets and propaganda of all kinds, as well as for the manufacture of staple fibers for the use of the textile mills and to some extent for the manufacture of explosives. German pulp mills have been working at near capacity to supply this demand. Imports, however, for the first half of the year amounted to 73,130 metric tons and were slightly lower than the corresponding period of 1935. Exports of chemical pulp have also been less, amounting to only 135,564 metric tons in the first 6 months of the current year as against 145,612 tons for the first half of 1935.

On the other hand, exports of newsprint have greatly increased—from 49,118 metric tons to 77,689 tons for comparative periods. Exports of wrapping paper are also larger.

Prices of unbleached sulphite, grade IB, have remained unchanged since the beginning of 1935 at RM 19 per 100 kilos (kilos equal 2.2046 pounds). There is a small discount per 100 kilos from this price. Trade Commissioner R. M. Stephenson, Berlin.)

WILL WORK FOR LOWER CANADIAN MACHINERY TARIFFS

When Canadian tariffs are revised early next year, British Columbia pulp and paper manufacturers will join forces with lumber operators and loggers in requesting that the present duties on machinery be reduced.

"British Columbia operations are now handicapped against competition with United States mills to the extent of about 50 per cent," said Lawrence Killam, president of the British Columbia Pulp & Paper Company, in addressing a meeting of the Vancouver Real Estate Exchange recently.

"In British Empire markets the lumber industry is favored by preferential tariffs, but all the forest industries in British Columbia are held back by the imposition of heavy duties on machinery, most of which is imported from the United States. If we could obtain all the machinery we need in Canada, it would not be so bad. However, we are compelled to buy a large proportion of our equipment in the United States, and we have to pay for it a much higher price than our competitors in the United States."

HOPPER VISITS COAST

A Coast visitor in September was Mr. B. C. Hopper, president of the Hopper Paper Company of Taylorville, Illinois. His mill produces bonds, writings, offsets papers and specialties.

The vice-president and general manager of the Hopper Paper Company is Mr. Frank D. Frampton, brother of Mr. Charles G. Frampton, superintendent of the California Fruit Wrapping Mills of Pomona, California.

MASON COUNTY WINS FIRST PRIZE

The Mason County exhibit at the Western Washington Fair, held in Puyallup, September 21-27th, won first prize for the best county exhibit.

As part of the Mason County exhibit was a display of the products made from the Rainier Pulp & Paper Company's pulp. Rainier also had a display of Raylig, the waste sulphite liquor road binder.

WALLITNER BECOMES ASSISTANT VICE-PRESIDENT OF CROWN ZELLERBACH

Mr. I. Wallitner of San Francisco has been appointed assistant vice-president of the Crown Zellerbach Corporation with headquarters in San Francisco.

RAISING THE ROOF AT CASCADE

Faced with the necessity of replacing the machine room roof of the Cascade Paper Company mill in South Tacoma, the Everett Pulp & Paper Company, owners of the property, decided to raise it approximately two feet.

This will provide additional clearance between the roof and the two paper machines.

With a crew of men working on the roof rumors soon began to circulate that the mill was to resume operations. These were denied by Mr. W. J. Pilz, vice-president and manager of the Everett Pulp & Paper Company.

AUGUST NEWS PRINT STATISTICS

Production in Canada during August, 1936, amounted to 270,053 tons and shipments to 278,219 tons, according to the News Print Service Bureau. Production in the United States was 73,673 tons and shipments 72,116 tons, making a total United States and Canadian news print production of 343,726 tons and shipments of 350,335 tons. During August, 29,301 tons of news print were made in Newfoundland, so that the total North American production for the month amounted to 373,027 tons. Total production in August, 1935, was 342,443 tons.

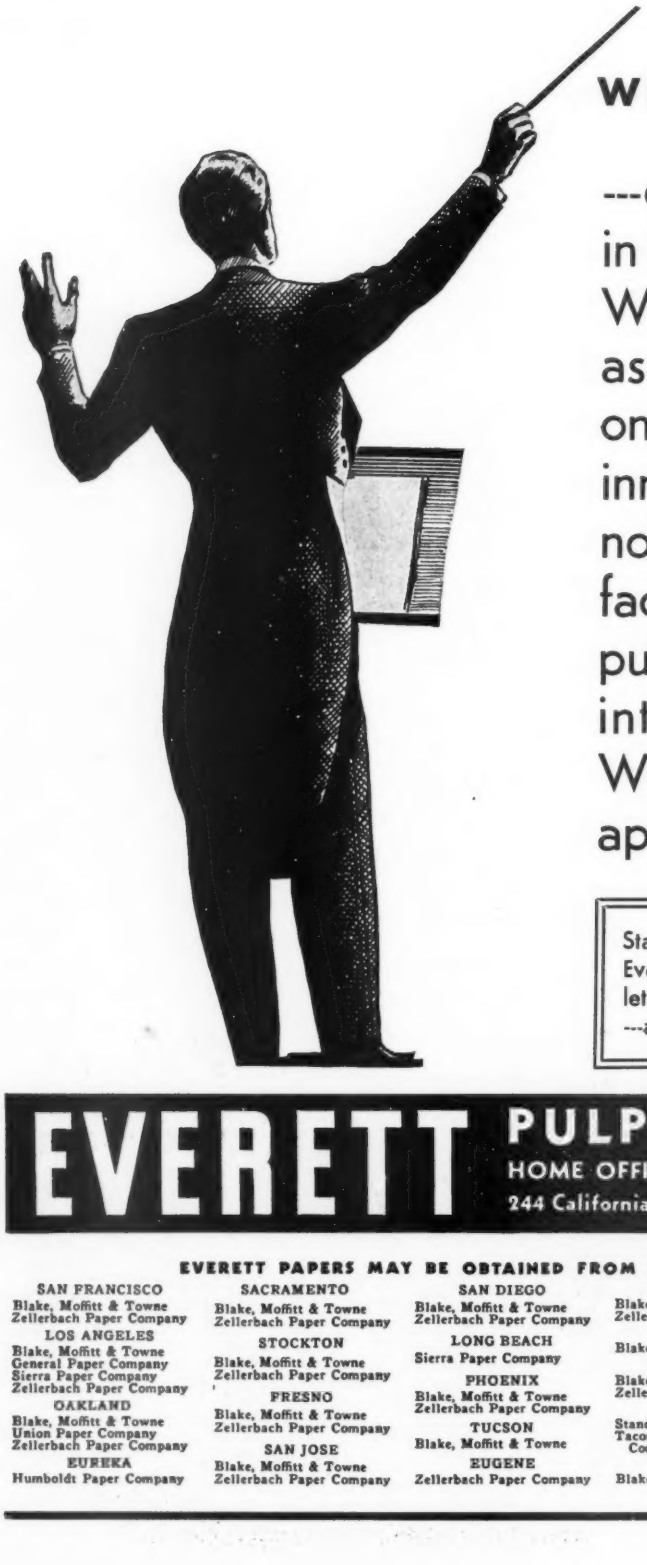
The Canadian mills produced 278,098 tons more in the first eight months of 1936 than in the first eight months of 1935, which was an increase of fifteen and eight tenths per cent. The output in the United States was practically the same as for the first eight months of 1935, in Newfoundland production was 10,354 tons or four and six tenths per cent less, and in Mexico 13,667 tons less than in 1935, making a net increase of 253,300 tons, or nine and seven tenths per cent.

Stocks of news print paper at Canadian mills were reported at 65,794 tons at the end of August and 21,464 tons at United States mills making a combined total of 87,258 tons compared with 93,867 tons on July 31, 1936, and 39,564 tons on August 31, 1935.

SYMPHONY

SUPER--M. F.

WITH OPACITY MAJOR



---one of the newer papers in the "Rely on Everett" line. With opacity so increased as to be emphasized even on solid areas, it marked an innovation, striking a new note in book paper manufacture to which printers, publishers and advertising interests throughout the West have responded with appreciation . . . .

Stationery dealers, too, have learned to Rely on Everett as manufacturers of School Supplies---tablets, composition books and commercial stationery ---and the Li-Rite line of coil wire-bound products

EVERETT PULP AND PAPER CO.

HOME OFFICE AND MILLS: EVERETT, WASHINGTON

244 California St., San Francisco—124 W. 4th St., Los Angeles

EVERETT PAPERS MAY BE OBTAINED FROM THE FOLLOWING PAPER MERCHANTS:

SAN FRANCISCO
Blake, Moffitt & Towne
Zellerbach Paper Company

LOS ANGELES
Blake, Moffitt & Towne
General Paper Company
Sierra Paper Company
Zellerbach Paper Company

OAKLAND
Blake, Moffitt & Towne
Union Paper Company
Zellerbach Paper Company

EUREKA
Humboldt Paper Company

SACRAMENTO
Blake, Moffitt & Towne
Zellerbach Paper Company

STOCKTON
Blake, Moffitt & Towne
Zellerbach Paper Company

FRESNO
Blake, Moffitt & Towne
Zellerbach Paper Company

SAN JOSE
Blake, Moffitt & Towne
Zellerbach Paper Company

SAN DIEGO
Blake, Moffitt & Towne
Zellerbach Paper Company

LONG BEACH
Sierra Paper Company

PHOENIX
Blake, Moffitt & Towne
Zellerbach Paper Company

TUCSON
Blake, Moffitt & Towne

EUGENE
Zellerbach Paper Company

PORTLAND
Blake, Moffitt & Towne
Zellerbach Paper Company

SALEM
Blake, Moffitt & Towne

SEATTLE
Blake, Moffitt & Towne
Zellerbach Paper Company

TACOMA
Standard Paper Company
Tacoma Paper and Stationery Company

BOISE
Blake, Moffitt & Towne

DENVER
The Carter, Rice & Carpenter Paper Company

SPOKANE
B. G. Ewing Paper Company
John W. Graham & Company
Spokane Paper & Stationery Company
Zellerbach Paper Company

YAKIMA
Zellerbach Paper Company

SALT LAKE CITY
Zellerbach Paper Company

HONOLULU, T. H.
Honolulu Paper Co., Ltd.
Patten Company, Ltd.

MANILA, P. I.
J. P. Heilbronn Company

SHANGHAI, CHINA
Cosmos Paper Co.

AUCKLAND, N.Z.
Brown & Stewart, Ltd.

SYDNEY, AUSTRALIA
Costello & Co., Ltd.

PAPER MILL MEN HOLD HI-JINKS

Attendance Breaks All Records

Southern Californians like to deal in superlatives so well that those who are not so favored as to live in the land of sunshine sometimes cross their fingers when residents of the golden state begin to tell of the colossal things that occur.

Nevertheless, on September 24th, the largest gathering of paper men in the history of the West took place at the Riverton Country Club, Santa Monica, when the Paper Mill Men's Club tendered the wholesale paper and twine distributing trade their second annual sports carnival and Hi-Jinks. There were 215 real paper men there. If you don't believe it, ask the committee; they paid for 215 dinners, and if you think they paid for any dinners for those outside the paper industry, you don't know the committee.

They started off at noon, when 70 mill men and jobbers teed off from the first hole of the beautiful and famous Riviera course. Another score or more gathered on the polo field to settle the question of whether mill men or jobbers were the best soft ball players. The mill men won, 27 to 26, although the jobbers' team protested that the winners quit before the game was over, when a wisp of fog rolled in. (What's this, a fog in Southern California?—Ed.)

Most of the crowd arrived just before dinner, at 7 p. m. Following suitable before dinner activities, President Edward N. Smith opened the ceremonies with a word of welcome to the guests. At his head table was the galaxy of stars who had arranged the details of the meeting: Geoge C. Wieman, chairman of the committee, and treasurer; Russell F. Attridge, sergeant-at-arms; Neil B. Sinclair, hard worker in charge of printing, mailing, the program and the Calcutta pool; G. Dewey Megel, secretary and co-ordinator; Fran Jenkins , handling door prizes, sponsors and promotion, and Frank R. Philbrook, who handled the golf tournament and golf prizes. President Smith arranged the floor show entertainment for the evening. Jerry Madigan and Louis Wanka handled the soft ball tournament.

With dinner finished, Frank Philbrook presented the handsome golf prizes to the winners. George Wieman took the low net in Class A, with a net of 68. R. H. Buel was low in Class B, with a 74. The winner of the select nine holes was R. T. Close, with 27 and the runner-up, on a toss up, was Warren Webb. Charles Spies won the blind bogey with 75, George Ward losing the tie on a toss, also having 75. W. A. McBride took the special prize for high score, with 131. despite heavy competition.

Door prizes were next distributed to the holders of the lucky door checks, the majority of the prizes being bottles of liquid smoke from Scotland. Then came the great drawing in the Calcutta pool, with Neil Sinclair officiating, assisted by Al. Hentschel. Sixteen lucky tickets were drawn for well worth while awards, ranging from a century note down. Winners included Ed Minne, F. O. Fernstrom, Oliver French, W. J. Pilz, Howard Ruweler, Elsie Richardson, Bill Heitman (who won two), C. P. Hewitt, Jr., R. O. West, George McNamara, L. W. Mayclin, L. T. Bleasdale, Myrtle Carver, Marge Dunlap and A. R. Rouse.

The Calcutta race was run with the attractive dancers of the evening masquerading as the horses. Their original owners, drawn by ticket, were M. T. Seary, J. C. Lehl, Ray Jones, Philo Holland, Al Pierson and W. J. Pilz. When auctioneer Sinclair had completed his work, and the race was run, the new owners, in order of the place won, were Charles Ruble, Fran Jenkins, G. D. Megel, Stan Yount, Walter Goodman, and Mason Olmsted.

Eleven high class acts of vaudeville, arranged through a Hollywood casting agency, completed the evening's entertainment. Members and guests were then left to their own devices, and were able to find diversion as desired, somebody having left a few decks of cards and such around.

To the credit of all concerned, and to the enjoyment of the master of ceremonies, who could not refrain from commenting on the fact, the stag party of over 200 men was probably the best-behaved in the history of such events. The committee later pointed with pride to the fact that 24 bottles of coca cola were consumed during the evening.

Sponsors of the event and guests included the following:

American Lace Paper Co., Lon A. Kippes; **Angelus Paper Excelsior Products Co.**, F. C. Van Amberg; **A. P. W. Paper Co.**, H. T. Rottler; **Bloomer Bros. Sales Corp.**, J. R. Townsend; **Boradori Company, The**, M. J. Boradori; **Brown Paper Goods Co. of California**, Charles Digby; **California Fruit Wrapping Mills, Inc.**, F. O. Fernstrom, Walter Johnson, John Fernstrom, J. W. Genuit, Gus Swanberg; **California Oregon Paper Mills**, Lewis H. White; **Capital Envelope Co.**, George C. McNamara; **Continental Paper & Bag Corpn.**, Frank Gladden; **Cooperative Sales Agency**, Ralph F. Reid; **Crown Willamette Paper Co.**, Lester E. Remmers, Newby A. Green, Chester O. Gunther, William R. McHuffie, Stanley G. Yount; **Crystal Paper Service Corp.**, Jack Williams, Paul R. Raab; **Crystal Tissue Co.**, Edward N. Smith; **Cupples Company**, Charles Spies; **R. B. Davis Sales Co.**, S. Y. Ferguson, S. D. Sneyd; **Diamond Match Company**, Tom Lyons; **Diana Manufacturing Co.**, Sales Service Corp., Ltd.; **Dobeckmun Company**, Charles Jones; **Everett Pulp & Paper Co.**, A. A. Ernst; **Fibreboard Products, Inc.**, Walter Johnson, O. C. Majors, R. C. McCrystal, J. A. McDaniel; **Glass Sales Agency, Inc.**, Kenneth R. Ross; **Graham Paper Co.**, Frank R. Philbrook; **Great Western Cordage, Inc.**, R. Hollis Hardy, Clarence W. Jordan, A. Bruce Swope, A. B. Wimpey; **Harvey Paper Products Co.**, Sales Service Corp., Ltd.; **Hawley Pulp & Paper Co.**, Dewey Megel; **Hoberg Paper Mills**, Robert S. Morrill; **Inland Empire Paper Co.**, S. R. Whiting, John E. Whiting; **Johnson, Carvell & Murphy**, Russell F. Attridge, Al C. Hentschel, Jerry Madigan, Douglas McDougall, Harold Melville, E. M. Murphy, E. W. Murphy; **Kimberly Clark Corporation**, Francis Jenkins; **Kleen Products, Inc.**, Sales Service Corp., Ltd.; **Lily Tulip Cup Corporation**, W. A. McBride; **Longview Fibre Co.**, A. D. West; **Los Angeles Paper Bag Co.**, S. T. Falk; **Maryland Paper Products Co.**, Sales Service Corp., Ltd.; **McLaurin Jones Company**, Norman A. Buist; **Menasha Products Co.**, Roy J. Gute, Syl P. Sitter; **Morgan Paper Company**, A. U. Morse & Co.; **Nashua Gummed & Coated Paper Co.**, Neil B. Sinclair; **National Paper Products Sales Co.**, Harry L. Fields; **Northern Paper Mills**, W. H. Heitman, Ben Watson; **Pacific Coast Envelope Co.**, Lewis T. Mork; **Pacific Coast Paper Mills**, S. G. Wilson, Louis Wanka; **Paper Plate & Tray, Inc.**, Sales Service Corp., Ltd.; **Paper Specialities Co.**, F. A. Climie; **Paper Supply Co.**, C. Cleve Bolyard; **Patten Paper Co.**, Marvin Vanderheiden; **Patterson Parchment Paper Co.**, Floyd D. Smith; **Pacific Waxed Paper Co.**, Charles L. Brouse; **Pioneer Flintkote Co.**, L. L. Anderson, Arthur E. Carlson, Cliff Johnson, M. C. Larson; **Rapinwax Paper Co.**, L. W. Mayclin; **Sales Service Corp., Ltd.**, C. M. Burch, S. R. Clarke, H. T. Phillips; **Sanigard Cover Co.**, Warren Dunnell; **Schermerhorn Brothers Co.**, Earl J. Fillier; **Edward N. Smith Co.**, Edward N. Smith; **Steward Paper Products Co.**, Henry B. Steward; **St. Helens Pulp & Paper Co.**, Frank R. Philbrook; **Straubel Paper Co.**, Sales Service Corp., Ltd.; **Superior Paper Products Co.**, Sales Service Corp., Ltd.; **Tuttle Press, The**, Edward N. Smith; **Western Shellmar Products Co.**, George C. Wieman; **Western Waxed Paper Co.**, Arthur L. Fox, Arthur E. Kern, Walter A. Volt, Carl H. Thomas, George C. Wieman.

Guests

Mr. Alfred Alden, Pacific Chemical Co.; Mr. R. L. Artz, Sierra Paper Co.; Mr. J. A. Ashley, W. A. Scheniman Paper Co., El Centro, California; Mr. Sam Abrams, United States Paper Co.; Mr. Max Abrams, United States Paper Co.; Mr. Ben Abrams, United States Paper Co.; Mr. C. Y. Atima, Union Paper Supply Co.; Mr. Harold Barnum, Barnum & Flagg Co., San Bernardino, California; Mr. J. H. Ball, J. H. Ball Wholesale Co., Glendale, California; Mr. Herbert D. Brin, Brin Bros.; Mr. Alfred Brin, Brin Bros.; Mr. John Brown, Pacific Pulp & Paper Industry; Mr. R. H. Buel, Buel Town Co., San Diego, California; Mr. James Bylling, Channel Paper & Supply Co., Santa Barbara, California; Mr. Harold Bates, General Paper Co.; Mr. H. A. Bryan, E. E. Hoagland Co., Ltd., Long Beach, California; Mr. W. H. Ballentine, Ingram Paper Co.; Mr. R. E. Banks, Long Beach Paper Co., Long Beach, California; Mr. Gilbert Brown, Market Wholesale Grocery Co.; Mr. F. H. Binney, Stockwell-Binney Co., San Bernardino, California; Mr. O. E. Boyd, Stationers Corp.; Mr. J. B. Brennan, Western States Grocery Co.; Mr. J. Y. Baruh, Zellerbach Paper Co.; Mr. L. T. Bleasdale, Zellerbach Paper Co.; Mr. Tony Canzoneri, Angeles Paper & Excelsior Prod. Co.; Mr. Sid Calof, Badger Paper Co.; Mr. Ernie Calof, Badger Paper Co.; Mr. L. C. Conner, Blake Moffitt & Towne; Mr. Ray Corbaley, Coast Wholesale Grocery Co., Ventura, California; Mr. T. E. Corcoran, Corcoran Paper Co., Fullerton, California; Mr. Milton Corcoran, Corcoran Paper Co., Fullerton, California; Mr. Gordon Cruikshank, Eastern Wholesale Grocery Co.; Mr. E. E. Clements, Haas Baruch & Co., El Centro, California; Mr. Ray Cassidy, Klauber Wangenheim Co.; Mr. R. T. Close, Smart & Final Co., Ltd., Wilmington, California; Mr.

PAPER MILL MEN'S CLUB
Officers and Committee

Back row, left to right: Les Remmer, Fran Jenkins, Bert Reynolds, Russ Attridge, Jerry Madigan, Charlie Spies and Lou Wanka.

Seated, left to right: Dewey Megel, Frank Philbrook, George Wieman, Edward N. Smith (club president), Neil Sinclair and Al Hentschel.

Charles Carter, Smart & Final Co., Ltd., San Bernardino, Calif.; Mr. Roger Colson, Blake Moffitt & Towne, San Diego, California; Mr. A. Cauthers, Market Basket Stores, Pasadena, California; Mr. T. M. Dennison, Blake Moffitt & Towne; Mr. Ross Devean, General Paper Co.; Mr. Clyde Dick, Ralphs Grocery Co.; Mr. Richard Davis, Smart & Final Co., Ltd., Glendale, California; Mr. R. G. Doak, Western States Grocery Co., Colton, California; Mr. Ralph Erlandson, Blake Moffitt & Towne; Mr. Harry Fielder, Certified Grocers; Mr. F. L. Farrell, Coast Wholesale Grocery Co., Santa Barbara, California; Mr. Richard Ferguson, Coast Wholesale Grocery Co., Santa Barbara, California; Mr. Ralph Ferguson, M. A. Newmark & Co.; Mr. Frank Fernandez, Fernandez Paper Co., Brawley, California; Mr. Oliver E. French, Fred H. French, Fred H. French Paper Co.; Mr. W. C. Fricke, Jr., Long Beach Paper Co., Long Beach, California; Mr. P. L. Fish, Southern California Supply Co.; Mr. Carl H. Fricke, Taverner & Fricke; Mr. Jerry Fleishman, S. E. Rykoff & Co.; Mr. E. R. Ferris, Zellerbach Paper Co., San Diego, California; Mr. Thomas Gibbon, Great Atlantic & Pacific Tea Co.; Mr. Hugh A. Gerrard, Alpha Beta Food Markets, Inc.; Mr. Phil Gerrard, Alpha Beta Food Markets, Inc.; Mr .Horace Gibson, Capital Envelope Co.; Mr. Lew Gronich, General Paper Co.; Mr. Rolla Gant, General Paper Co.; Mr. Kieth Gemmill, Haas Baruch & Co.; Mr. R. W. Graham, Stockwell-Binney Co., San Bernardino, California; Mr. Sam Goldman, United States Paper Co.; Mr. R. A. Halderman, Great Atlantic & Pacific Tea Co.; Mr. W. W. Huelat, Blake Moffitt & Towne; Mr. M. R. Halpin, Coast Wholesale Grocery Co., San Luis Obispo, California; Mr. V. W. Hosmer, Fred H. French Paper Co.; Mr. E. S. Hoagland, E. E. Hoagland Co., Ltd., Long Beach, California; Mr. Harold Hawley, M. A. Newmark & Co.; Mr. Walter Hadley, Pioneer Wrapper & Printing Co.; Mr. H. L. Hildebrand, Ralphs Grocery Co.; Mr. H. A. Hibler, Rand, Halpin & Hibler, Santa Maria, California; Mr. W. S. Hook, Southern California Supply Co.; Mr. Henry Horiuchi, Union Paper Supply Co.; Mr. S. C. Hersh, Western States Grocery Co., Santa Barbara, California; Mr. T. Hughes, West Coast Wholesale Grocery Co., Santa Monica, California; Mr. Philo Holland, Zellerbach Paper Co.; Mr. William E. Hokanson,, Zellerbach Paper Co.; Mr. Sam Horowitz, Interstate Wholesale Grocery Co.; Mr. Harry Horowitz, Interstate Wholesale Grocery Co.; Mr. Morris Horowitz, Pacific Wholesale Grocery Co.; Mr. K. C. Holland, Carpenter Paper Co.; Mr. Donald Ingram, Ingram Paper Co.; Mr. Gordon Jenkins, Gordon Jenkins Paper Co.; Mr. J. W. Jex, Ralphs Grocery Co.; Mr. Louis J. Johannsen, Ward Davis & Dunn, Long Beach, California; Mr. Sam Krohn, Colonial Wholesale Grocery Co.; Mr. J. Arthur Kelly, Kelly Paper Co.; Mr. J. H. Kehres, Zellerbach Paper Co.; Mr. Harry Levy, Market Wholesale Grocery Co.; Mr. Paul Lewis, Alfred M. Lewis Co., San Diego, California; Mr. Tony La Bianca, State Wholesale Grocery Co.; Mr. A. W. Lutz, Smart & Final Co., Ltd., Wilmington, California; Mr. R. E. LeGrant, Taverner & Fricke; Mr. M. G. Monteleone, American Paper Co.; Mr. John Mignery, R. L. Craig Co.; Mr. Wesley Millin, Pacific Chemical Co.; Mr. Harry Morgan, Stationers Corp.; Mr. Ed Marshall, Spartan Grocery Co.; Mr. Gordon Murphy, Zellerbach Paper Co.; Mr. George Marmion, Marmion Co., Long Beach, California; Mr. Ralph Neumayer, Acme Paper Co., Glendale, California; Mr. Harry Nicklin, Haas Baruch & Co., San Diego, California; Mr. A. J. Nelson, Ingram Paper Co.; Mr. Harvey North, Klauber Wangenheim Co., San Diego, California; Mr. Nick Nicassio, Southern Calif. Wholesale Grocery Co.; Mr. W. A. Noland, Zellerbach Paper Co.; Mr. Lynn Oviatt, Blake Moffitt & Towne; Mr. L. A. Otto, Paper Supply Co.; Mr. T. F. O'Keefe, Sierra Paper Co.; Mr. Thomas O'Keefe, Sierra Paper Co.; Mr. Mason B. Olmsted, Zellerbach Paper Co.; Mr. P. Poulson, Coast Wholesale Grocery Co., San Luis Obispo, California; Mr. Nate Pessin, Golden State Wholesale Grocery Co.; Mr. C. O. Peterson, Alfred M. Lewis Co., Riverside, California; Mr. Paul Peters, Sierra Paper Co., Long Beach, California; Mr. L. L. Pickering, Western States Grocery Co., San Diego, California; Mr. E. H. Polkinghorne, E. H. Polkinghorne Co.;

GOLFERS AND BALL PLAYERS AT THE PAPER MILL MENS' HI-JINKS

No. 1, left to right, is Cort Majors, Albert E. Stern, Sr., and Neil Sinclair. No. 2, the umpires of the softball game. On the left Bill Fricke and Fred Climie. No. 3, left to right, Dick Close, Keith Gemmill, Charles Spies and Warren Webb.

No. 4, left to right, Bill Taverner, Mason Olmsted, Walter Huelat and George Wieman. No. 5, left to right, Frank Philbrook, Carl Fricke, R. E. Le Grant, Floyd Smith. No. 6, on the left, is F. O. Fernstrom and on the right John Fernstrom of the California Fruit Wrapping Mills at Pomona.

No. 7, the jobber's soft ball team known as "The East River Rats." Top row, left to right, Lew Gronich, Roy Banks, Jack Williams and Louis Wanka. Bottom row, left to right, Jerry Madigan, L. W. Mayclin and Bob Whiting. No. 6, left to right, A. A. Ernst, Walter Voltz, Paul Rabb and Lou Connors.

No. 9, THE WINNERS, the mill mens' soft ball team, known as the "Central Avenue Giants." Top row, left to right, Roy Gute, Dewey Megel and Gordon Jenkins. Bottom row, left to right, Harold Melville, Warren Dunnell and Harry Fields. No. 10, Lew Gronich misses one. No. 11, Dewey Megel hits one. Note the ball on its way.

Mr. L. G. Ripley, Angeles Paper & Excelsior Prod. Co.; Mr. W. J. Ross, General Woodenware Co.; Mr. L. S. Richey, Klauber Wangenheim Co., San Diego, California; Mr. George Rand, Rand, Halpin & Hibler, Santa Maria, California; Mr. W. B. Reynolds, Pacific States Paper Trade Assn.; Mr. George Randolph, Southwestern Grocery Co., San Diego, California; Mr. R. E. Rogers, Western States Grocery Co.; Mr. Sol Rykoff, S. E. Rykoff & Co.; Mr. N. Ramsay, Market Basket Stores, Pasadena, California; Mr. Walter Reed, E. H. Polkinghorne Co.; Mr. H. C. Ramser, Upholstery Supply Corp.; Mr. Carl H. Smith, Channel Paper & Supply Co., Santa Barbara, California; Mr. M. Silver, General Woodenware Co.; Mr. M. B. Schireson, General Woodenware Co.; Mr. M. H. Strickler, Paper Supply Co.; Mr. J. T. Smith, Alfred M. Lewis Co., Riverside, California; Mr. James Smith, San Diego Paper Co., San Diego, California; Mr. W. A. Scheniman, W. A. Scheniman Paper Co., El Centro, California; Mr. Sam Sawelson, Sam Sawelson Wholesale Co.; Mr. T. Sumi, Union Paper Supply Co.; Mr. David Silverman, United Paper & Tobacco Co., San Diego, California; Mr. William Sklute, Southern California Disinfecting Co.; Mr. Carl Sponberg, Western States Grocery Co.; Mr. J. J. Summerhays, Western States Grocery Co.; Mr. A. J. Storage, Western States Grocery Co., Wilmington, California; Mr. L. W. Smith, Western States Grocery Co., San Diego, California; Mr. Ray Stoudt, Wellman Peck Co., San Diego, California; Mr. Herbert J. Schuette, West Coast Wholesale Grocery Co., Santa Monica, California; Mr. Fred Shaw, Zellerbach Paper Co.; Mr. W. H. Sumner, Spartan Grocery Co.; Mr. R. B. Town, Buel-Town Co., San Diego, California; Mr. Harry Toplitsky, Southern California Disinfecting Co.; Mr. William E. Taverner, Taverner & Fricke; Mr. A. M. Thompson, Ward Davis & Dunn, Long Beach, California; Mr. William Toomey, California Wholesale Grocery Co.; Mr. George Thorpe, Carpenter Paper Co.; Mr. C. M. Vaughn, Certified Grocers; Mr. John Vanderzyl, Riverside, California; Mr. Edward Walden, Acme Paper Co., Glendale, California; Mr. R. R. Whiteman, Blake Moffitt & Towne; Mr. Robert Whiting, Blake Moffitt & Towne; Mr. William Wynn, Blake Moffitt & Towne; Mr. Clayton Whiteman, Certified Grocers; Mr. Glenn Willson, Ingram Paper Co.; Mr. William Weitsman, Market Wholesale Grocery Co.; Mr. Sam White, Southern California Disinfecting Co.; Mr. Sam Warner, Stationers Corp.; Mr. Warren Webb, Smart & Final Co., Ltd., Santa Ana, California; Mr. A. J. Wilson, Wilson Paper Co.; Mr. J. P. Wilbur, San Diego, California; Mr. L. H. Wilson, Wilson Paper Co.; Mr. E. S. Wright, Safeway Stores; Mr. George Ward, Ward Davis & Dunn; Mr. Charles Wilson, Wilson Paper Co.; Mr. Lewis Wright, W. L. Wright & Son, Pomona, California; Mr. Elmer Wright, Safeway Stores; Mr. R. Zeigler, West Coast Bakers Supply Co.; Mr. A. L. Zeigler, West Coast Bakers Supply Co.

NEWSPAPERS PREPARED AGAINST TIEUP

British Columbia newsprint mills speeded delivery of orders to several Pacific coast newspapers during the last few weeks because of the threat of a shipping tie-up.

Because publishers feared the possibility of another crippling waterfront strike similar to that of 1934 they placed orders for a reserve supply of newsprint so as to protect themselves against shortage. Although newprint from such producing centers as Powell River and Ocean Falls could have been shipped by water to Vancouver and thence transported by rail to the consuming cities down the coast this would have been a costly procedure, and there was no absolute guarantee that shipping in British Columbia ports not be interrupted, too. Last year, it will be recalled, there was labor trouble at the Powell River Company because of the attempt of an outside union to organize in the paper town and compel the company to employ only unionized dock labor. This resulted in Powell River paper shipments being classified as "unfair," and all United States vessels carrying Powell River cargoes to American ports were boycotted. Two or three vessels thus loaded were forced to stand idle for weeks in California ports. During the last week in September, when a strike was threatened to begin October 1—before the 15 days' truce was declared—the reserve supply of newsprint in California was at capacity., and Los Angeles papers reported that they had sufficient paper to last at least two months. An additional 3,000 tons of newsprint, however, had been ordered. The Los Angeles Times, one of the largest consumers of newsprint on the coast, is reported to have loaned a smaller competing daily 100 tons of newsprint to bolster its supply against a possible shortage.

Members of the California Newspaper Publishers Association were officially advised by John Long, general manager, to purchase enough paper to last them a reasonable time in the event of a strike, and apparently almost every member paper followed this advice. The Coply group of papers had eight weeks' supply on hand. All this paper, of course, was not supplied by British Columbia mills exclusively.

In 1934 a general waterfront strike in San Francisco and Northwest ports upset the usual arrangements for newsprint supply, and Los Angeles, an open shop town, fed a large section of the coast by rail.

BROWN PAPER GOODS PLANS IMPROVEMENTS

Further improvements are scheduled for the Los Angeles plant of the Brown Paper Goods Co., according to Mr. Charles Digby, manager of the rapidly growing concern.

Napkin production will be increased approximately 100 per cent when the new improvement program is complete. They will shortly install a packaged napkin machine of new type, recently perfected by a Wisconsin machine company, and this will be the second one ever built. The first is installed in the Hoberg napkin factory at Green Bay, Wis.

Three more Hudson-Sharp napkin machines are on order, one to be installed in December and the other two on Jan. 1. This will make a total of six napkin machines in the plant, which has been running 24 hours a day for the past five months, and sorely in need of new production.

In addition, one more German make-and-print bag machine is in transit and will be on hand soon for installation.

The company has recently opened an office and warehouse in Seattle at 1300 Western Ave., with Mr. M. G. Hopkins in charge. Warehouse stocks are now carried in San Diego, Los Angeles, San Francisco and Seattle.

Mr. Fred Shafer, who has been in charge of sales at the main office, has taken over the office at San Francisco, and his work is now being taken care of by Mr. A. H. Formey in Southern California. Mr. Formey was formerly with the Nashua Gummed & Coated Paper Co.

CRITICIZES B. C. FOREST POLICIES

British Columbia's forest policies were criticized in Vancouver recently by A. W. Cooper, master of forestry of Yale University and for many years an executive official of the United States Forest Service.

Mr. Cooper toured some of British Columbia's logged off areas, visited some of the government's forest training camps and viewed the reproduction of timber after logging operations.

Mr. Cooper does not think that British Columbia is giving adequate attention to forest protection. "You are operating your forests like an industry which fails to maintain its plant," said Mr. Cooper. "You take nearly all the revenues from the forests and spend them on the ordinary costs of government. Your key problem is prevention of forest fires, and more money should be spent on that work. If you cannot control fires there is no use in trying to perpetuate your forests by artificial or any other means. Where fire continually sweeps over logged off areas, there is little or no reproduction for years. Selective logging is useless unless you have first effectively combatted the fire hazard."

FALCONER GIVEN SEND OFF

When Mr. Joseph Falconer, formerly resident manager of the Powell River Company at Powell River, B. C., left on the evening of September 23rd to assume his new duties as controller of the company in Vancouver, his many friends were down at the boat to see him off.

The Highland band of Powell River tendered him a bagpipe serenade and everyone wished him well in his new position.

BRISTOL'S FIELD SALES MANAGER VISITS WEST COAST

According to an announcement of The Bristol Company, Waterbury, Conn., makers of Bristol's controlling, recording and indicating instruments, H. E. Beane, field sales manager is now visiting the many important industrial plants in the states of Oregon, Washington and California.

A sales engineer of the company since 1920, during which time he served as district manager of the company's Pittsburgh office for six years, Mr. Beane has had an unusually rich background of instrument application experience, particularly in the lumber, public utility, steel and canning industries. This will enable him to study to advantage the expanding activities of the company on the Pacific Coast in these and other industries.

A new sales and service office is expected to be established in the northwest that in addition to Bristol's present West Coast Service Laboratory and Assembly Plant located in San Francisco, will help meet the growing demand for the company's service facilities.

H. E. BEANE
Field Sales Manager
The Bristol Company

T·R·A·D·E • T·A·L·K

of those who sell paper in the western states

+ + + +

CONSOLIDATED MOVES

The Consolidated Paper Manufacturing Co., converters of toilet tissue and paper napkins, recently moved into their new building at 2871 East Pico Blvd., Los Angeles. Lawrence Young is manager of the plant.

L. A. VISITORS

G. E. Young, in charge of newsprint sales for Crown Willamette, was in Los Angeles the first of October for a brief visit before returning to San Francisco.

A. Bankus, vice president of Crown Willamette, spent a few days here about the same time, looking over the southern plants, and visiting W. R. McHaffie.

WORKING WITH ZELLERBACH

Allan I. Schmulian is now working exclusively with the Zellerbach Paper Co. in Los Angeles as mill and factory representative of Western Shellmar Products. This company, whose factory is in Oakland, specializes in printed cellophane bags and wrappers.

MISS MARSHALL HONORED

Miss Bess Marshall, secretary-treasurer of the Paper Supply Co., was recently elected president of the women's division of the Los Angeles Credit Men's Association, a signal honor for any business woman in this city.

ZELLERBACH AND MIDLAND

Zellerbach Paper Co. has blanketed into its personnel fold all the employes of its newly-acquired Midland Paper Co. of Chicago and recently presented some of the veterans with service pins.

COCHRAN AND MACORMACK EAST

Two San Francisco paper mill representatives were visiting their eastern principals in September and October. One was T. C. Macormack, representative of the Strathmore Paper Co. and the Rising Paper Co. and the other was A. H. Cochrane, who represents Dill & Collins, Inc., and Wheelwright Papers, Inc.

B. M. & T. MEN HAVE NEW SAMPLE CASES

Blake, Moffitt & Towne salesmen are now sporting very fancy black leather zippered cases furnished by Linton Brothers & Co. of Fitchburg, Mass., and containing samples of Linton printing and index bond papers. Linton is conducting an expensive advertising campaign on their bonds and are also getting out demonstration kits for prtinters.

BECKWITH RETURNS

Charles H. Beckwith, San Francisco, Pacific Coast manager of Carter, Rice & Co. Corp., coastwide paper jobbers, returned on October 1 from an eastern trip.

BILL ADY MARRIED

Bill Ady, son of J. C. Ady, division manager at Oakland for the Zellerbach Paper Co., was married in Reno Sept. 26 to Miss Dorothy Schuster. Bill is a salesman at the Oakland branch.

SERVICE PINS

Charles Burgess of the San Francisco division of the Zellerbach Paper Co. was awarded a 40-year service pin recently. I. Zellerbach, president of the Crown-Zellerbach Corporation, made the award and said Charley had gained an even hundred pounds while working for the Zellerbach company, having weighed 75 pounds when he went to work and now tipping the scales at 175.

In Seattle A. B. (Andy) Nelson received a 20-year pin. One of his fellow workers made the comment: "To look at him now, one would think Zellerbach adopted him while he was still a babe in arms."

ROSS CHANGES JOBS

Mr. Kenneth Ross, who has been with the Hawley Pulp & Paper Co. for the past few years in their Los Angeles office, recently resigned to accept appointment as Los Angeles manager for the Glass Sales Agency. Mr. Walter Goodman is manager of the company, with offices in San Francisco.

Mr. Ross has an extensive background of experience in the paper business, and originally came to Los Angeles from Portland, where he first joined the Hawley staff.

PELL'S MOVIES POPULAR

Rodman C. Pell, the picture-taking paper dealer of San Francisco, leaves October 30 for an automobile and train trip throughout Mexico to take a new colored motion picture film. Mr. Pell has been giving his illustrated lecture "Rainbow Isles in the South Seas" before various California audiences and he broke all attendance records at Wheeler Hall, University of California, when he gave his show six nights with the hall crowded to its 1,100 capacity each night. During his absence Larry Locey has charge of the Pelican Paper Co.

ARONSON VISITS STATES

Henry Aronson of Cebu and Manila, in the Philippine Islands, was on the Pacific Coast in September on his regular every-other-year visit to the states. Mr. Aronson is in the paper business in the islands. He sails for home from Los Angeles.

BAUM IN MIDWEST

Charles A. Baum, San Francisco, Pacific Coast manager of Robert Gaylord, Inc., manufacturers of fibreboard boxes, was visiting at the home office in St. Louis in September. He is expected to return to the coast in October.

RECIPROCAL TRADE TROUBLES

The United States Customs Court has overruled the claim of importers of Argentine corn that the reduction in duty rates granted Cuba was equally applicable under most favored nation agreements to other nations. Under this test case the Import Committee of the American Paper Industry reports scores of imports of German paper were also taken to Customs Court on an identical claim. If the corn case is not overruled upon appeal all the claims affecting paper will automatically be decided adversely to the importers.

McCRYSTAL TRANSFERRED

Mr. R. C. McCrystal, who for some years has been manager of the South Gate Division of Fibreboard Products, Inc., has been named manager of Glass Containers, Inc., a Los Angeles affiliate.

Mr. Lou Garlick, formerly of the corrugated shipping case department, has taken over the duties of manager at the Southgate plant.

OFFICE WORK IS MOSTLY SEEING

The efficiency of your employees is largely determined by the lighting conditions under which they work.

Let us help you analyze your lighting requirements. This service is free to our customers.

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Puget Sound Power & Light Company

"To Best Serve the Public Interest"

BRECKENRIDGE HONORED

C. A. Breckenridge, head of the credit department for Zellerbach Paper Co. in Los Angeles, was recently elected president of the men's division of the Retail Credit Men's Association.

BROUSE RECOVERED

Charles Brouse, sales manager for the Pacific Waxed Paper Co,. is back at his desk in Los Angeles, following a lengthy sojourn in the hospital recovering from an operation.

HUELAT AND WHITEMAN

Walter W. Huelat, Los Angeles division manager for Blake, Moffitt & Towne, finished several weeks vacation at Del Monte early in October, stowed his golf clubs away, and again appeared at the executive desk.

R. R. Whiteman, sales manager of the wrapping paper department, went to a dude ranch in Arizona last month, and after two weeks of roughing it in style, spent another week on a business trip through the terrritory there before returning to Los Angeles.

CHANNEL IN NEW LOCATION

The Channel Paper & Supply Co. of Santa Barbara, Calif., on Oct. 1 moved into their new building on State street, and are now doing business at the new location in much enlarged and improved quarters.

The company, operated by Carl Smith and James Bylling, has been in business here for about 12 years. Theirs is the only exclusive paper jobbing house in Santa Barbara, and they carry a very complete line of paper and related items.

OLYMPIC FOREST PAYS AGAIN ON ARREARS

The directors of the Olympic Forest Products Company have declared a dividend of $2 on the $8 preferred stock to apply on dividends in arrears, payable December 1st to stock of record November 20th.

This is the second dividend declared on the preferrred stock since it was issued in 1930, the initial payment of $2 having been paid September 1st of this year. Dividends from November 20th, 1930, are in arrears $48 a share.

RAINIER DECLARES REGULAR DIVIDEND

Directors of the Rainier Pulp & Paper Company have declared the regular quarterly dividend of 50 cents on the class A and B shares, payable December 1st to stock of record November 20th.

EVERETT SELLING PAPER IN MANY COUNTRIES

In an attractive broadside recently mailed to paper jobbers, advertising men and printers the Everett Pulp & Paper Company of Everett, Washington, pointed out that Everett printing papers are available in 47 world cities, 22 in the Western portion of the United States and 25 in foreign countries.

The broadside, which was entitled "The Compass 'Round," was printed in pastel blue on white Everett Nautilus Eggshell.

Everett papers are distributed throughout Mexico, Central and South America, Cuba, Puerto Rico, Australia, New Zealand, in Manila, Shanghai and Honolulu.

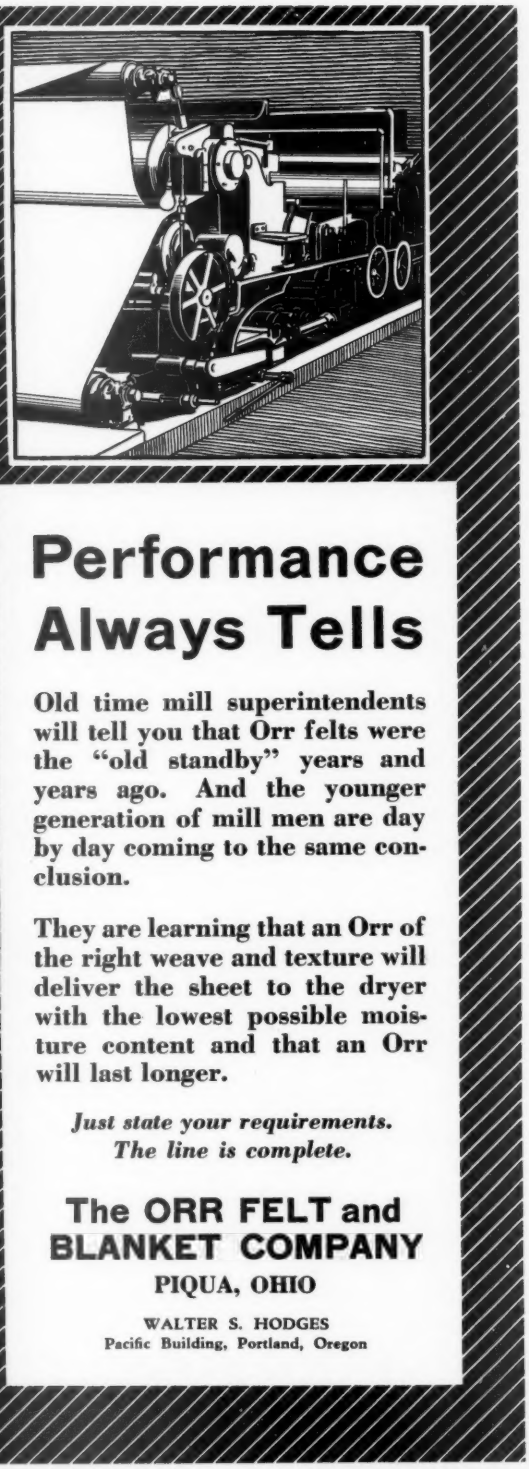
BRITISH PAPER INDUSTRY ACTIVE IN SECOND QUARTER

Increased activity occurred in all branches of the British paper industry during the second quarter of this year, according to reports received in the Commerce Department's Forest Products Division.

Imports into the United Kingdom of paper-making pulp in this period were sharply in excess of both the preceding quarter and the corresponding three months of 1935. All classes of paper-making pulp were included in the increase with the sole exception of dry mechanical pulp, statistics show. Finland continued to rank as the main source of supply during the first half of 1936, accounting for approximately half of the aggregate pulp imports into the United Kingdom, in this period.

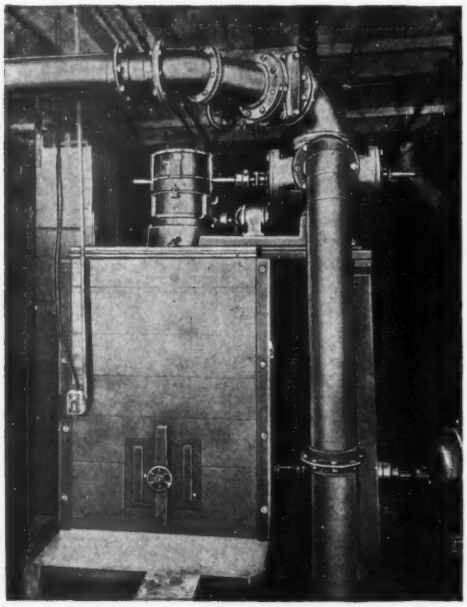
British imports of paper in the second quarter also registered expansion, amounting to 3,306,340 hundredweights, an increase of approximately 16 per cent as compared with the second quarter of 1935, it was stated.

Exports of paper from the United Kingdom during the second quarter of 1936 amounted to 926,795 hundredweights, a total slightly higher than that for the corresponding period of 1936. In value, however, the 1936 figure was slightly less than the 1935 total. Dominion markets were the principal outlets for British paper exports, accounting for 40 per cent of the total in the quarter under review, with Australia the leading customer. South Africa, Irish Free State and British India were also important purchasers, according to the report.

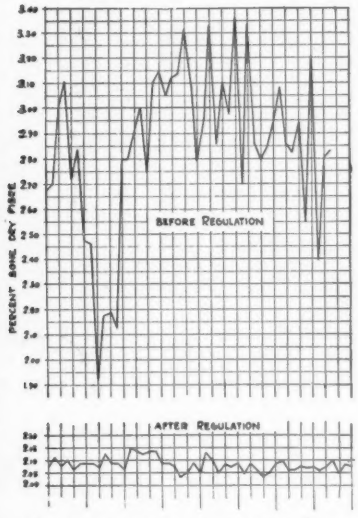

Performance
Always Tells
Old time mill superintendents will tell you that Orr felts were the "old standby" years and years ago. And the younger generation of mill men are day by day coming to the same conclusion.
They are learning that an Orr of the right weave and texture will deliver the sheet to the dryer with the lowest possible moisture content and that an Orr will last longer.
Just state your requirements.
The line is complete.
The ORR FELT and BLANKET COMPANY
PIQUA, OHIO
WALTER S. HODGES
Pacific Building, Portland, Oregon
ORR
FELTS

PRECISION CONSISTENCY REGULATOR and METERING DEVICE

Assures Uniform Weight and Stock Measurement by Accurately Controlling Stock Density and Volume Measured



Typical installation before Jordans for Kraft stock.



Showing variations in consistency before Regulator was installed and after.

Automatically keeps flow of stock at any desired consistency.

Gives a continuous, uniform result. Corrects within 1/10th of 1%. Handles up to 8% consistency. Eliminates rejections of finished product.

Trouble-free, dependable. A sturdy machine.

Write for catalog.

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Pacific Coast Representative:

A. H. LUNDBERG

Seattle, Washington

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122 EAST FORTY-SECOND STREET • NEW YORK, N. Y.

"NON-USERS ARE THE LOSERS"

TENAX FELTS

FINISH AND TRIM

FINISH—TEXTURE—TRIM

FINISH is the most-often-mentioned quality in all papers and bond. To attain the optimum, use TENAX FELTS in all positions.

TEXTURE is often a very necessary quality, and uniformity is best obtained by using TENAX FELTS in all positions. We specialize in layout for this important quality.

TRIM—A most important feature of TENAX FELTS. Use them in all positions to obtain maximum trim.

"Non-Users Are the Losers"

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